

Erwin J.O. Kompanje

Natuurmuseum Rotterdam & Nationaal Natuurhistorisch Museum (Naturalis), Leiden

Review of strandings and catches of *Tursiops truncatus* (Mammalia: Cetacea, Odontoceti) in the Netherlands between 1754 and 2000

Kompanje, E.J.O., 2001 - Review of strandings and catches of *Tursiops truncatus* (Mammalia: Cetacea, Odontoceti) in the Netherlands between 1754 and 2000 - DEINSEA 8: 169 - 224 [ISSN 0923-9308]. Published 09 November 2001

This article presents an annotated list of all known strandings and catches of bottlenose dolphins *Tursiops truncatus* (MONTAGU, 1821) from the Dutch coast and Dutch coastal waters. Between 1754 and 2000, 184 well documented reports and 179 insufficiently documented reports of a dead animal, six well documented catches and one well documented live stranding of bottlenose dolphins have become known. All well documented cases are either documented by skeletons and/or skulls or other remains kept in natural history museums, or by photographs or drawings of the stranded animal on the beach. 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. The first case of a dicephalic monstrosity in this species is described.

Correspondence: Dr Erwin J.O. Kompanje, Natuurmuseum Rotterdam, P.O. Box 23452, NL-3001 KL Rotterdam, The Netherlands; e-mail natuurmuseum@nmr.nl

Keywords: Cetacea, *Tursiops truncatus*, bottlenose dolphin, strandings, the Netherlands, dicephaly

INTRODUCTION

Between 1754 and 2000, 363 records of a dead bottlenose dolphin *Tursiops truncatus* (MONTAGU, 1821) (Fig. 1) found on the coast of the Netherlands have become known. The last one dates back to 1991. Beside these, six catches and one stranding of a living dolphin have been reported. This cetacean, once common along the Dutch coast, has now disappeared from Dutch waters. Between 1920 and 1960 this species was the most frequently recorded (dead or alive) cetacean along the

coast of the Netherlands, next to the harbour porpoise *Phocoena phocoena*. In the North Sea, bottlenose dolphins are nowadays only resident in the Moray Firth, Scotland; elsewhere in the North Sea they have become rare stragglers.

This article reviews all known strandings and catches of this species from the Dutch coast and coastal waters and presents all known information on the documented strandings and catches.

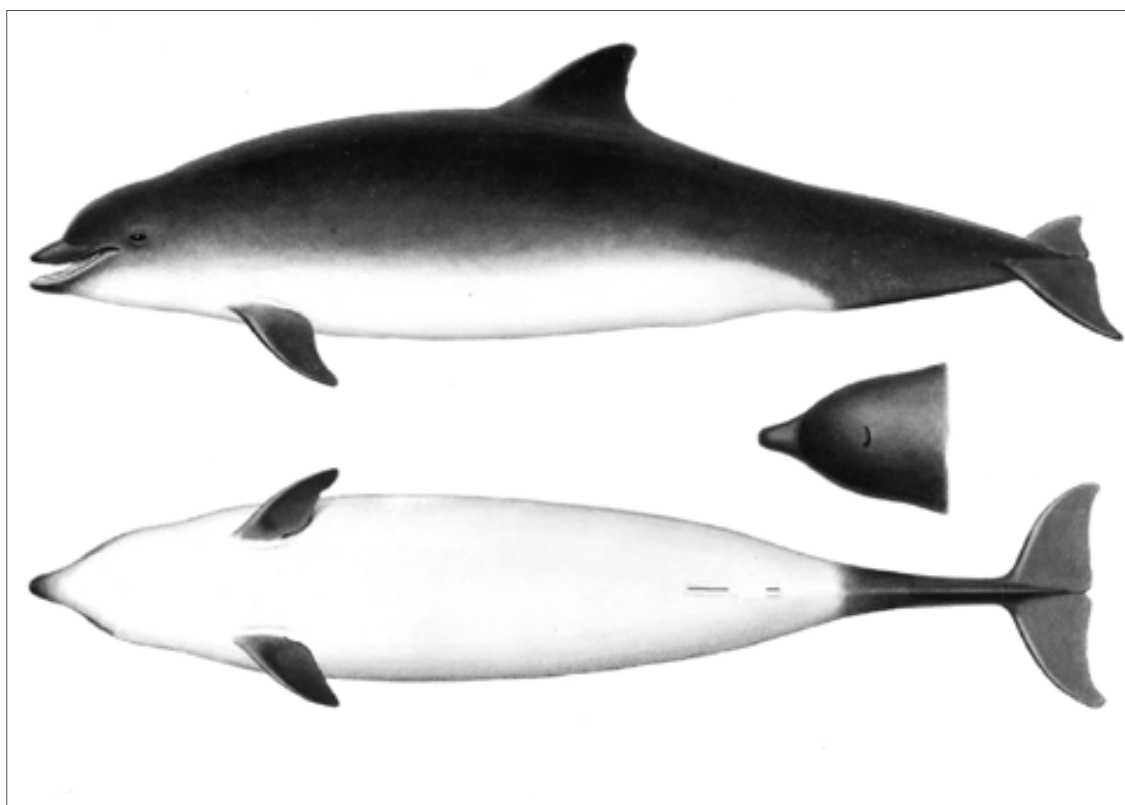


Figure 1 *Tursiops truncatus*, adult male. Case 37, 27-28 June 1929, Zandvoort. Painting by M.A. Koekoek [collection RMNH].

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 several natural history museums and private collections in the Netherlands (for a list of museum acronyms used, see Table 1). Every report of a stranding of a bottlenose dolphin found in the archives and/or published stranding lists, or specimen in collections was verified as to identification and reliability when physical proof was lacking. When reliable evidence of correct identification was found, the case was added to the 'Chronological list of well documented strandings' (Appendix 1) and is described and discussed in the 'Chronological overview of

strandings' given below. This evidence can be (1) a clear photograph of the stranded animal or recognisable parts of it, (2) detailed drawings of the animal or parts of it by the finder, (3) skeletal remains kept in collections, (4) recognisable soft parts of the dolphin preserved in spirit and kept in collections, or (5) a detailed written, unambiguous description given by an experienced finder. All cases lacking these kinds of evidence were added to the 'Chronological list of strandings without evidence of correct identification' (Appendix 2). Both lists are given at the end of this paper.

The 'Chronological overview of strandings' is divided into four periods: period 1: before 1920; period 2: 1921-1950; period 3: 1951-1975, and period 4: after 1975. The reasons for this division are as follows. In period 1 (before 1920) strandings were only recorded 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 bottlenose dolphins and of bottlenose dolphins spotted in coastal waters. In this period many neonates and calves were found, most probably an indication of a healthy population (Hersch *et al.* 1990). In period 3 (1951-1975) the decline of strandings and sightings of bottlenose dolphins (Verwey 1975) set in, and in 1972 and 1975 the last dead calves were found on the Dutch coast. In period 4 (after 1975) the resident population of bottlenose dolphins disappeared from the Dutch coastal waters, and strandings only represent stragglers.

Bottlenose dolphins from Dutch coastal waters which were caught alive and subsequently killed are listed separately. The same applies to the cases of live strandings which did not die on the beach. Some incorrect identifications (cases which were identified as *Tursiops*, but which represent cases of *Lagenorhynchus albirostris*, *Delphinus delphis*, *Globicephala melas* or *Phocoena phocoena*) could be proved by studying material in archives or museums.

Table 1 Acronyms used in this article.

RMNH	Nationaal Natuurhistorisch Museum ('Naturalis') (National Museum of Natural History, Leiden, the Netherlands, formerly Rijksmuseum van Natuurlijke Historie)
ZMA	Zoologisch Museum Universiteit van Amsterdam, the Netherlands
NMR	Natuurmuseum Rotterdam (Natural History Museum Rotterdam), the Netherlands
NME	Natuurmuseum Enschede, the Netherlands
NMG	Natuurmuseum Groningen, the Netherlands
FMN	Fries Natuurmuseum, Leeuwarden, the Netherlands
SMV	Stedelijk Museum Vissingen, the Netherlands
ZMU	Universiteitsmuseum Utrecht, the Netherlands (formerly Zoologisch Museum Utrecht)
TL	total length of the animal
TW	total weight
CBL	Condylbasal length, the length of the cleaned skull from the tip of the rostrum to hindmost margin of the occipital condyles
RL	Rostrum length, taken on the cleaned skull from tip to the line across hindmost limits of antorbital notches
GPOB	greatest postorbital width, taken on the cleaned skull
N'UJ	number of teeth/tooth rows upper jaw, right/left
N'LLJ	number of teeth/tooth rows lower jaw, right/left
ageGLG	age based on counts of growth layer groups of tissue in the teeth

Unfortunately, a lot of important data, such as stomach contents, exact total lengths and reproductive status from this population, are incomplete or missing. This makes analysis of the strandings data almost impossible. The total body length of the animal is often estimated or the figure was rounded by the finder and the accuracy of the measurements varies significantly. Acronyms of measured units, dental information and age-class are listed in Table 1.

CHRONOLOGICAL OVERVIEW OF STRANDINGS

PERIOD 1: before 1920 THE EARLY RECORDS

From this period, 22 records of stranding are known, of which 16 are reliable. In six cases reliable evidence of correct identification is lacking. Most of the stranded dolphins were adult specimens, one 11 year old female was pregnant (stranded 27 November 1901) and one, dicephalic, monstrous, neonate was recorded. This might mean that during this period mostly adult stragglers were found, or, more likely, that only adult specimens were reported and collected/documented. Neonate *Tursiops* could be mistaken for *Phocoena*. Bennet & Olivier (1822: 159) cited two Dutch cetacean species: the harbour porpoise and the bottlenose dolphin (They named the bottlenose dolphin *Delphinus delphis*, but gave also the Dutch name 'Tuimelaar' and 'Tuimel-dolphiijn' and gave a description which is characteristic for *Tursiops*). As habitat for this species they mention European seas, beaches of the North Sea and saltwater rivers. According to these authors, Dutch fishermen caught the dolphins and ate their meat. Important is also the remark made by Schlegel (1841: 25) that the bottlenose dolphin was, in earlier times (prior to 1841), more common ('Diese Art, deren Verbreitungsbezirk sich eben so weit als der Braunfisches zu erstrecken scheint, besuchte wie es scheint unsere Küsten früher häufiger als jetzt'). The reporting system of stranded cetaceans

was, however, insufficient during this period of time.

case 1: 01 February 1818 and '1821'

Adult, sex unknown, TL 310 cm. Collected at Oostwolder-Hamrik, province of Groningen on 1 February 1818. The complete mounted skeleton is in the RMNH (RMNH 31182). Jentink (1887: 173) states under collection number RMNH 31182: '*Squelette d'un individu adulte, échoué à la côte de Groningue. Du Musée de Groningue, par M. van Swinderen*'. Handwritten in Jentink's catalogue, kept in the archives of the RMNH, is: '*Pres de Oostwolder Hamrik, 1 febr. 1818*'. Schlegel (1841: 26) mentioned also a *Tursiops* found on the '*Groningse kust*' around 1820: '*Wir besitzen das Skelett und die Zeichnung eines....., vor etwa 20 Jahren an der Küsten der Provinz Gröningen gestrandeten, etwa 11 Shuh langen Thieres. Unser Museum erhielt diese Stücke durch die Güte des Herrn Professors van Swinderen zu Gröningen, dessen uneigennützig Freigebigkeit wir vielfältig zu rühmen Ursache haben*'. Van Oort (1918) cited that the skeleton of the *Tursiops* collected on February 01, 1818 at Oostwolder Hamrik is in the collection of the RMNH. Van Deinse (1923, 1931) also cited this case. In my opinion, Schlegel (1870) most probably described and illustrated this specimen (the whole dolphin, two views of the skull and one tooth) as the new taxon *Delphinus tursio obtusus*, the diagnostic feature being its extremely worn teeth.

Van Deinse (1923, 1931) mentioned another adult *Tursiops* of unknown sex, with a TL of 11 'voet', found on the '*Groningse kust*' in circa 1821 as a separate case. The evidence of this case was, according to Van Deinse, a drawing by prof. Van Swinderen, which was lost. In accordance with the article by Schlegel (1841) and the catalogue by Jentink (1887) the drawing by Van Swinderen concerns the *Tursiops* found at Oostwolder Hamrik on February 01, 1818. Van Oort (1918) does not mention the second case

cited by Van Deinse. Van Deinse (1931: 262), most likely misreading Schlegel, wrote that the skeleton was stored in the RMNH, but that dr van Oort had informed him that the skeleton was not at the RMNH in 1918. The skeleton is not mentioned in Jentink's catalogue (1887). Most probably, the skeleton was never in the RMNH, and Van Deinse (1931) had mistaken the case of February 01, 1818 for this case. Van Deinse had created a 'new' case, by misreading Schlegel. Van Deinse (1923, 1931) thought that the *Tursiops* illustrated by Schlegel (1870, plate 13) concerned this second case, but it concerns more likely the Oostwolder Hamrik specimen.

The archives of the RMNH contain a drawing of the jaws with severely worn teeth with the annotation '*Tursiops truncatus, kust Groningen 1821*'. The teeth are typical of an old specimen of *Tursiops* (Fig. 2a), and represent the jaws of the *Tursiops* of 1 February 1818. It is reasonable to consider these two cases to be one stranding. This case also represents the 'type-specimen' of *Delphinus tursio obtusus* described and illustrated by Schlegel (1870, plate 13), which is a synonym of *Tursiops truncatus* and just an example of an old animal with extremely worn teeth, a phenomenon quite common in older *Tursiops* from the North Sea coasts (De Smet 1977).

Literature: Schlegel 1841: 25; Schlegel 1870: 86-87, plate 13; Jentink 1887: 173; Van Oort 1918: 57; Van Deinse 1923: 231; Van Deinse 1931: 258, 262; Schultz 1970: 185; Broekema 1983: 69

case 2: before 1841, c. 1820

Adult, male, TL c. 355 cm. Collected on the Dutch coast. The exact place and date of stranding is unknown. Schlegel (1841: plate IV, fig. 9 and plate V, fig. 1 & 2) illustrated this specimen. The male *Tursiops* Schlegel illustrated in 1870 (plate 12) most probably also concerns this dolphin (Van Deinse 1923: 231; 1931: 262). The complete skeleton of this case is in the RMNH (RMNH 31185).

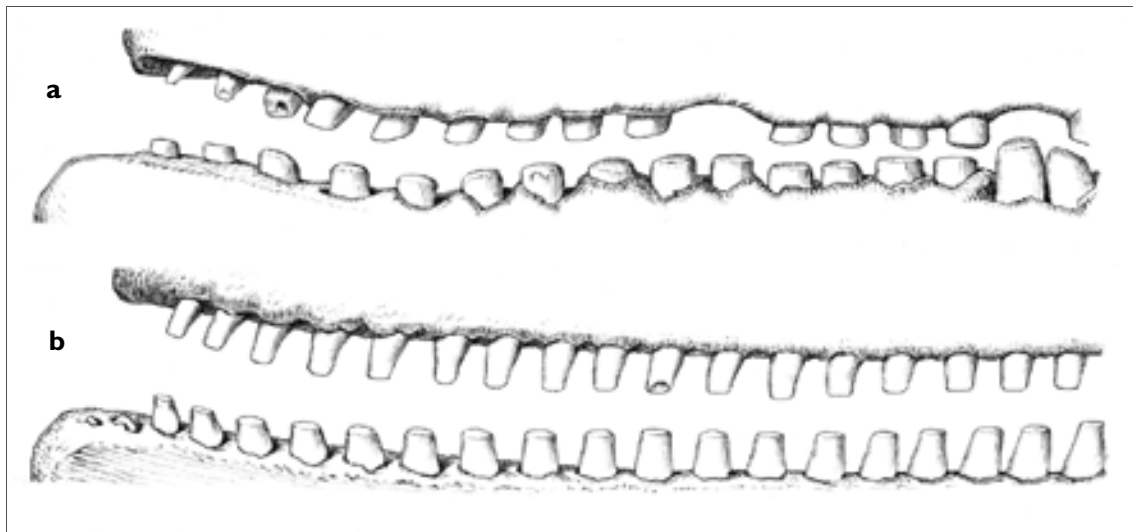


Figure 2 *Tursiops truncatus* **a** teeth of case 1, 1 February 1818, Oostwolder- Hamrik; **b** teeth of catch case 4, 25 February 1941, Biesbosch, Dordrecht. [archives RMNH]

Schlegel (1841: 25) described this case as follows: '...ein Exemplar von beinahe elf Fuss Länge, welches vor etwa zwanzig Jahren an unserer Küste strandete, zu Schiff nach Leiden transportirt, genau angemessen, gezeichnet und dann ausgestopft wurde'. The fact that the stuffed and mounted skin has been in the collection of the RMNH is cited by several other authors: Van Bemmelen (1866: 248): 'Een voorwerp ongeveer veertig jaren geleden aan de Groningse kust gestrand (Schlegel). De huid en het skelet van dit voorwerp in het Rijks Museum van Nat. Hist. te Leyden.' [An object stranded about forty years ago on the 'Groningse' coast (Schegel). The skin and skeleton of this object are in the RMNH at Leyden]; Schlegel (1870: 86): 'In het Rijks Museum van Natuurl. Historie te Leiden bevindt zich de opgezette huid....' [In the natural history museum at Leyden is the stuffed skin of...]; Flower (1880: 4): '...stuffed in the Leiden Museum...'; Van Oort (1918: 57): 'In de collectie zijn: a. opgezet man van onze kust, door Schlegel afgebeeld in 1841..' [In the collection are: a. stuffed male from our coast, illustrated by Schlegel in 1841...]; Van Deinse (1923): 'Opgezet R.M.N.H. Leiden' ['Stuffed skin in R.M.N.H. Leyden'] and in 1931: 'Opgezet in Leiden';

skelet ook? ['Stuffed skin in Leyden, skeleton also?']. The stuffed and mounted skin is not in the collection of the RMNH anymore. It is not clear what happened with this specimen. It must be considered lost.

Literature: Schlegel 1841: plate IV, fig. 9, plate V, fig. 1,2; Van der Hoeven 1856: 384; Van Bemmelen 1866: 248; Schlegel 1870: 86, plate 12; Flower 1880: 4; Jentink 1887: 174; Van Oort 1918: 57; Van Deinse 1923: 231; Van Deinse 1931: 258, 262; Schultz 1970: 185; Broekema 1983: 69

case 3: before 1865

Adult, sex unknown. Dutch North Sea. A complete and mounted skeleton from the former collection of W. Vrolik is in the ZMA (ZMA 8808 (# 752)). Dusseau (1865) mentioned this skeleton in his catalogue on p. 176 (no. 752): 'Squelette d'un grand Dauphin - Delphinus tursio - Mer du Nord'.

Literature: Dusseau 1865: 176

case 4: August 1878 or 1879

This severely decomposed adult specimen was collected at the Zuiderzeedijk, nearby 'Huis Zeeburg', Amsterdam, province of Noord Holland by Max Weber. The skeleton

was initially deposited in the collection of Artis Natura Magistra, Amsterdam (Van Deinse 1923), but in 1931 Van Deinse mentioned that the skeleton was untraceable there. Nowadays the skeleton remains in the collection of the ZMA (ZMA 8161).

Literature: Weber 1922: 446; Van Deinse 1923: 231; Van Deinse 1931: 258, 262; Schultz 1970: 186

case 5: 20 June 1887

Subadult, sex unknown, TL 260 cm (?). Found at De Cocksdorp, island of Texel. From this specimen the complete skeleton was taken for the collection of Natura Artis Magistra, Amsterdam. The collection of the ZMA contains the mounted skeleton of this specimen (ZMA 9238). In the archives of the RMNH is a note by Max Weber concerning a *Tursiops* with a TL of 296 cm and TW 278 kg. Weber mentioned that he lost his notebook with the exact date and place of stranding of this case. He collected the skeleton for Natura Artis Magistra. Most probably, this concerns the *Tursiops* of 20 June 1887.

Literature: Van Oort 1918: 57; Van Deinse 1923: 231; Van Deinse 1931: 258, 263; Schultz 1970: 186

case 6: 27 September 1889

Adult, female, TL 314 cm, TW 385 kg. This dolphin was found on the (now) former island of Wieringen, province of Noord-Holland. The mounted skeleton, without pelvic bones, is in the ZMA (ZMA 8633). Some photographs of the skull are in the archives of the ZMA.

Literature: Van Oort 1918: 57; Van Deinse 1923: 231; Weber 1922: 466; Van Deinse 1931: 258; Schultz 1970: 186

case 7: 27 November 1901

Adult, pregnant female, TL 305 cm. The dolphin was found at 'Het Nieuwe Diep', Den Helder, province of Noord-Holland. Sold to the RMNH by dr P.P.C. Hoek (Den Helder). The mounted skin, mounted skeleton

and the male foetus on alcohol are kept in the RMNH (skeleton and skin RMNH 31192; foetus RMNH 859). AgeGLG: 11.

Literature: Jentink 1902: 18; Van Oort 1918: 57; Van Deinse 1923: 231; Van Deinse 1931: 259; Schultz 1970: 186; Broekema 1983: 69

case 8: September 1910

Juvenile, sex unknown, TL unknown.

Stranded near Vierhuizen, Lauwerszee, province of Groningen. Found by dr P Kruizinga (Delft). The mandible is supposed to be kept in the Natuurmuseum Groningen (NMG). I was unable to check this. The archives of the RMNH contain a sketch of the mandible with measurements, as well as correspondence between A.B. van Deinse and prof Van Bemmelen about the disappearance of the skull, which had been stolen by a student. The length of the mandible is 355 mm. Not mentioned by Schultz (1970) in his review.

Literature: Van Deinse 1931: 263

case 9: 20 July 1917

Neonate, female, dicephalic monstrem, TL 125 cm. Found freshly dead on the beach at Wijk aan Zee, province of Noord Holland. This very rare specimen was sold by J.H. Walhoff (Wijk aan Zee) to the RMNH (Van Oort 1917: 29), where it was preserved by the director of the museum dr E.D. van Oort. Three photographs were made by dr J. Boeke (these three photographs are in the archives of the RMNH) (Fig. 3). In april 1919 the specimen was given on loan to dr A.B. Droogleevers Fortuyn for further study. The latter demonstrated the specimen in April 1919 on the 'XVIIe Nederlandsch Natuur- en Geneeskundig congres' in Leiden. Since that time the specimen was kept in the Anatomical Cabinet of Leiden. Van Deinse (1931: 263) mentioned that in 1931 the specimen was not further studied and was still unpublished in the scientific literature. Now the specimen is untraceable, neither in the Anatomical Cabinet, nor in any other museum, and is - unfortunately -

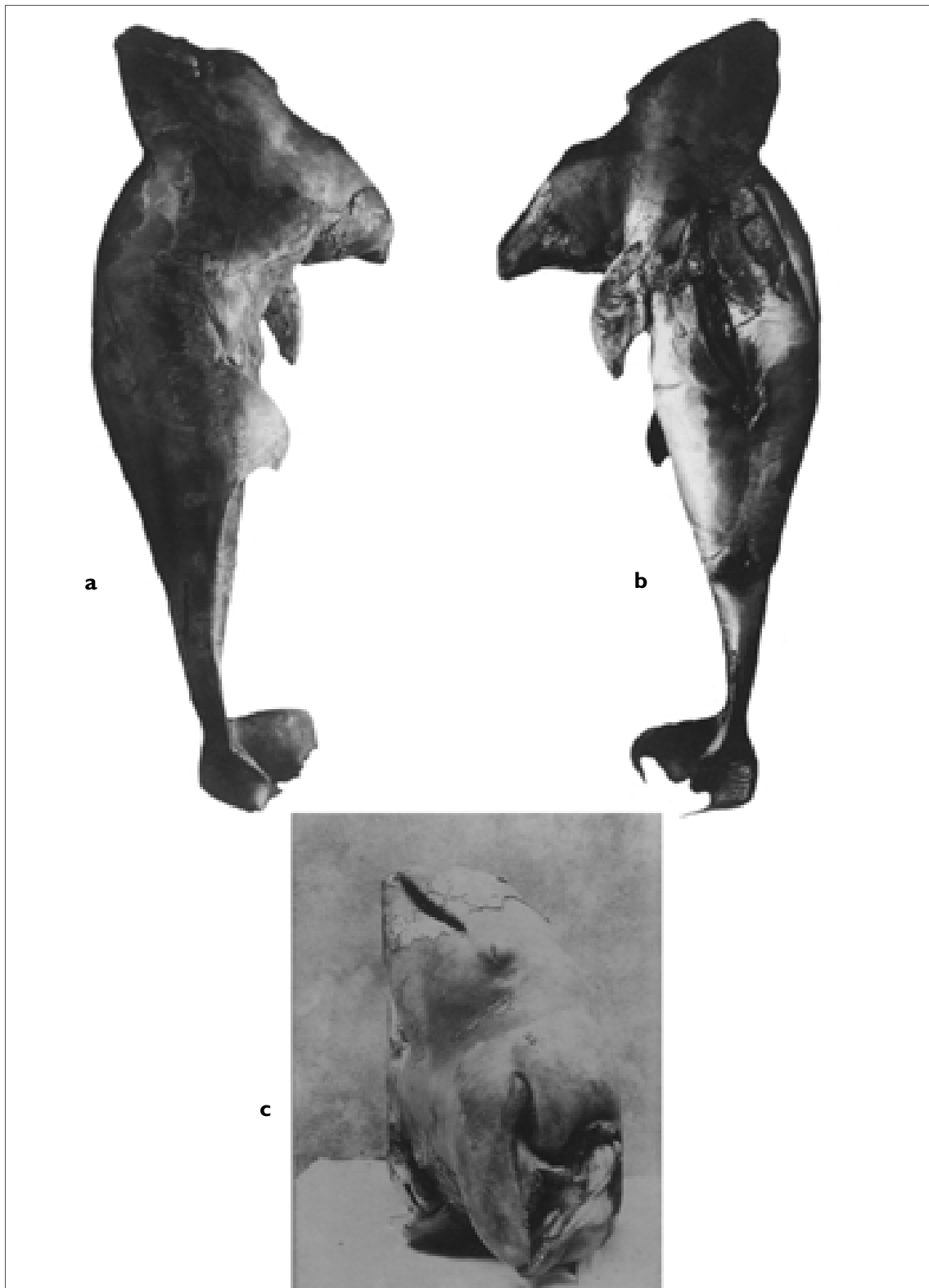


Figure 3 *Tursiops truncatus*, neonate female, monstrem. Case 9, 20 July 1917, Wijk aan Zee. Dicephalus, monosomus triotus with unilateral schistoprosopus on the left head. **a** in dorsal view, **b** in ventral view, **c** heads in frontal view. [archives RMNH]

most probably lost for science. It is supposed to be lost during the Second World War in 1941.

Kamiya *et al.* (1981) reported the first case of dicephaly ('duplicitas anterior') in an odontocete. They described a dicephalic foetus of *Stenella coeruleoalba* which was collected on 14 December 1979 off the Pacific coast. The specimen from Wijk aan Zee is found 62 years earlier, and should be seen as the first known specimen of this congenital deformation in an odontocete. Fortunately dr Boeke had photographed the specimen before he gave the specimen on loan to Droogleevers Fortuyn, otherwise we should not have had any proof of this rare case. The specimen can be seen as an double monstrum, in the sense of united or conjoined twins. It has two heads with one corpus and partial duplication of the spine. It is a dicephalus dibrachius. The duplication has begun in the cranial region. The corpus is single and normal (monosomos). On the photographs the normal body shape is visible, showing two pectoral fins, one genital slit, one dorsal fin and normal tailflukes. The right of the two heads is, as far as can be judged from the photographs, completely normal in appearance, the left of the two heads shows however a form of teratoprosopus (face monstrosity) in the form of a unilateral schistoprosopus.

Congenital monstrous deformations are very rare in cetaceans. Only a few cases can be traced in literature. Similar deformations as found on the left head of our case are described earlier by Ohsumi (1959) in a fin whale *Balaenoptera physalus* and by Kawamura (1990) in a sei whale *Balaenoptera borealis*. A siamese twin of a minke whale *Balaenoptera acutorostrata* is described by Zinchenko & Ivashin (1987). All these cases concern unborn fetuses. The *Tursiops* from Wijk aan Zee was found after birth, the umbilicus still bleeding, and, judging by its length, full term. Our monstrum had two heads with four eyes and most probably three ears (trio-

tus). Where the vertebral column duplicates is unclear, most probably in the higher thoracic vertebral column. Conjoined twins arises during the process of monozygotic twinning. The two bodies formed from the same inner embryonic cell mass of the blastula do not separate completely. In man, conjoined twins (double monsters) are extremely rare with a rate of 0.1 - 0.2 per 10.000 births (International Clearinghouse for Birth Defects Monitoring System 1991). If the heart of the monstrum is conjoined, all neonates die at birth. There is probably early fetal mortality in conjoined twins, so less will be born at term.

Concluding diagnosis: Full term female fetus, monstrum. Dicephalus, monosomos dibrachius with unilateral schistoprosopus on the left head.

Literature: Van Oort 1917: 29; Van Oort 1918: 57; Nederlandsch Natuur- en Geneeskundig Congres 1920: 229; Van Deinse 1923: 232; Van Deinse 1931: 259, 263; Schultz 1970: 186

case 10: August 1917

Adult, sex unknown, TL unknown. Found at Noordwijk aan Zee, province of Zuid Holland. Only known from one eye preserved in spirit in the NMR (NMR 999000393). Not in the stranding lists by Van Deinse.

case 11: before 1918, exact date unknown

Adult, female, TL 315 cm. Stranded at Wijk aan Zee, province of Noord Holland. Mounted skeleton in the RMNH (RMNH 31183). Not mentioned by Schultz (1970) in his review. AgeGLG: 18+ (damaged section).

Literature: Van Oort 1918: 57; Van Deinse 1923: 231; Van Deinse 1931: 259; Broekema 1983: 69

case 12: after 1888, before 1918 (exact date unknown)

Sub-adult, sex unknown, TL c. 250 cm (Van Oort, Van Deinse); 296 cm (Weber), TW 278 kg (Weber). Stranded on the 'Hollandse kust', exact place and date of stranding unknown.

Notes made by Max Weber in the archives of the RMNH. Complete skeleton in the RMNH (RMNH 31184). AgeGLG: 3.

Literature: Van Oort 1918: 57; Van Deinse 1923: 231; Van Deinse 1931: 258; Schultz 1970: 186; Broekema 1983: 69

case 13: April 1918

Adult, sex unknown, TL unknown. Found at Hoek van Holland-zuid, 'De Beer'. Skull and right mandible obtained by A.B. van Deinse in June 1918. Skull and right mandible are in the RMNH (no collection number). Surprisingly, this stranding is neither mentioned by Van Deinse in 1923, nor in the list by Schultz (1970). NTUJ 25/24, NTLJ 22/?.

Literature: Van Deinse 1931: 259, 263-264

case 14: 18 August 1919

Adult, sex unknown, TL c. 300 cm. Found in decomposed state at Ballum, island of Ameland, province of Friesland by A.B. van Deinse. Detailed description (in Dutch) of the collecting of this animal in Van Deinse (1923). The complete skull was originally in the NMR, but was sold around 1975 from the museum collection by R.E. Hamstra to a private skull collector. After some efforts, the skull could be traced and was restored in the museum collection (NMR 999000171). Pelvic bones in the RMNH (no collection number). Drawings of three teeth by A.B. van Deinse in the archives of the RMNH. Van Deinse (1923, 1931) gives no exact date, but on the manbible of the skull is written '18

augustus 1919, Ballum' and on the drawing 'Ameland, 18.8.1919'. Van Oort (1920) incorrectly gives 'Vlieland' as place of stranding. CBL 445 mm, RL 253 mm, GPOB 230 mm, NTUJ 23/23, NTLJ 22/22.

Literature: Van Oort 1920: 8; Van Deinse 1923: 225-226, 232; Van Deinse 1931: 259, 264; Schultz 1970: 186

case 15: 23 August 1919

Adult, sex unknown, TL 325 cm. Found at Noordwijk aan Zee, province of Zuid Holland. Only documented by a drawing by M. Vieyra in the archives of the RMNH. Nothing was saved, the remains were buried on the beach.

Literature: Van Deinse 1923: 227, 232; Van Deinse 1931: 259, 264

case 16: 30 August 1919

Adult, male, TL 310 cm. Found on 30 August 1919 at Noordwijk aan Zee, province of Zuid Holland by dr S. Birnie. Mounted skeleton in the RMNH (RMNH 933). The blowhole and one eye were collected by A.B. van Deinse. The blowhole (NMR 999000394) preserved in spirit is in the NMR. An 1:1 scale cardboard model of the dorsal fin, of the tailflukes and of the head, a drawing of the mounted skeleton (Fig. 4) and two photographs, one of the whole animal in lateral view (Fig. 5) and one of the head by J. Frowein (Arnhem) are in the archives of the RMNH. Both photographs are illustrated in Van Deinse (1923: fig. 1 & 2). CBL 538 mm, RL 296 mm, GPOB 291 mm, NTUJ 27/26,

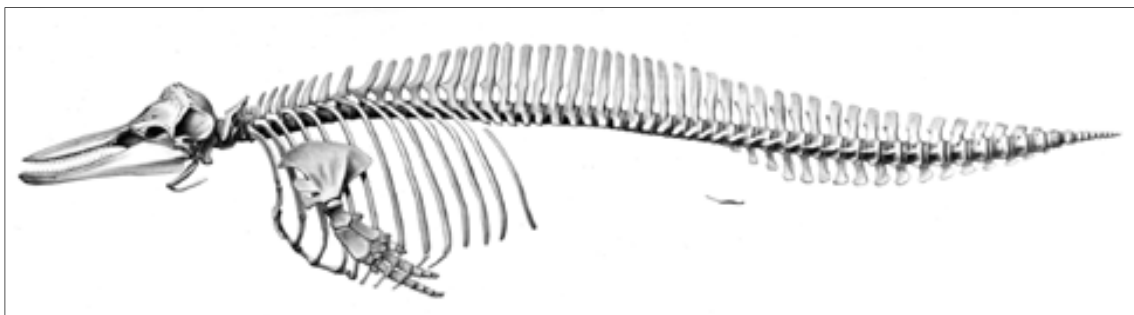


Figure 4 *Tursiops truncatus*, adult, male Case 16, 30 August 1919, Noordwijk aan Zee. [archives RMNH]



Figure 5 *Tursiops truncatus* adult male. Case 16, 30 August 1919, Noordwijk aan Zee. [photo J. Frowein, archives RMNH]

NTJL 25/25. AgeGLG: 5 (damaged section).

Literature: Van Oort 1920: 21; Van Deinse 1923; Van Deinse 1931: 259, 264; Slijper 1936: 281; Schultz 1970: 186; Broekema 1983: 69

PERIOD 2: 1921 - 1950 THE HEYDAY OF THE DUTCH COASTAL *TURSIOPS*

During this period 195 records of bottlenose dolphin strandings are known. For 102 cases reliable evidence of correct identification was found, in 93 cases this evidence is lacking. Of the reliable cases, 18 represent a neonate, the other 84 are juvenile, sub-adult or adult. This period represents the heyday of the Dutch coastal *Tursiops* for sightings (Verwey 1975) as well as for strandings. During the second world war (1940-1945) the access to most of the Dutch beaches was prohibited, hence many stranded cetaceans kept unnoticed and unreported in this period.

case 17: 13 February 1921

Juvenile, sex unknown, TL unknown. Found near Zandvoort, province of Noord Holland. Five teeth in RMNH (no collection number). Not mentioned by Van Deinse in his lists of strandings (1923, 1931).

case 18: 31 July 1921

Adult, sex unknown, TL c. 260 cm. Island of Terschelling, 'De Boschplaat', beachmarker 22, province of Friesland by J. van Blom (Leiden). According to Van Deinse (1923, 1931) the animal was lost. A photograph made in August 1921 by dr A.G.M. Liernur (Tilburg) shows the cleaned skull and scapula and is kept in the archives of the RMNH. This photograph was sent to Van Deinse in December 1932. Skull and scapula are untraceable now. Possibly, the mandible in the NMR (NMR 999000173) with the note '1921' concerns this case.

Literature: Van Deinse 1923: 231; Harmer 1923: 14; Van Deinse 1931: 259; Van Deinse 1946: 173; Schultz 1970: 186

case 19: 01 June 1922 (beginning of June 1922) or 8 July 1922

Adult, sex unknown (female?), TL 320 cm. South of Kijkduin, Loosduinen, 15 minutes by foot south of 'het zeehotel Wilhelmina', province of Zuid Holland. Van Deinse (1923) gives as stranding date July 8, 1923, but in his thesis (1931) on page 260, he wrote June 1922 and on page 264, July 8, 1922. Harmer (1923), who has published some details of Dutch strandings in his list of strandings on the British coast gives as stranding date July 1, 1922. The details of the strandings were sent to Harmer by Van Deinse. Hummelinck (1924) mentioned that the dolphin was found in the beginning of June 1922. Skull and left pectoral fin were, according to Van Deinse (1923), collected by J. Knock (Schiedam). The skull is nowadays in the ZMA (ZMA 23.027). The left fin was in the property of P.J. van der Laan (Rotterdam). The cervical vertebrae and the right pectoral fin were collected by dr P. Wagenaar Hummelinck (Vlaardingen). In January 1932 Wagenaar Hummelinck donated the cervical vertebrae and the pectoral fin to Van Deinse (Van Deinse, 1946). The cervical vertebrae are now kept in the NMR (NMR 999000182), the fin is untraceable. Pieces of skin with rake-marks were collected by A.B. van Deinse, these are, preserved in spirit, now kept in the NMR (NMR 999000185). An oil painting of the stranded animal by P.J. van der Laan (Rotterdam) with date of stranding 22 August 1922, six detailed drawings (one of the head, three of rake-marks, two of both carpal skeletons) by A.B. van Deinse and a 1:1 scale cardboard model of the right pectoral fin are in the archives of the RMNH.

Literature: Van Deinse 1923: 227-229, 232, fig. 3; Harmer 1923: 14; Van Oort 1923: 8; Hummelinck 1924; Van Deinse 1931: 260, 264; Van Deinse 1946:

173; Schultz 1970: 186

case 20: 28 July 1922 (or 28 July 1923)

Neonate, sex unknown, TL c. 110 cm. Stranded south of 'het zeehotel Wilhelmina', Kijkduin, Loosduinen, province of Zuid-Holland. One photograph by F.A. Donkersloot (Rotterdam-Overschie) of the stranded animal on the beach is kept in the archives of the RMNH (Fig. 6). In Van Deinse (1923, 1931) the date of stranding is July 28, 1922. On the back of the photograph (Fig. 6) Van Deinse wrote as the date of stranding July 28, 1923. He also wrote on the back of the photograph that he had received it from F.A. Donkersloot on January 21, 1924, but the list in his article (Van Deinse 1923) stated that he had received a photograph of the animal. This has to be prior to December 1923. Harmer (1923, issued 24th February 1923) wrote: 'A young specimen (1.10 metres = 3 ft. 7 1/4 in.) was stranded at Kijkduin, near the Hague, on July 28, 1922'. I consider the date of stranding to be 28 July 1922. Nothing was saved of this case. The measured length (110 cm is small for a neonate *Tursiops*) should be judged with some reservation (see Fig. 6, the length of the dolphin in relation to the two men). Not mentioned by Schultz (1970).

Literature: Van Deinse 1923: 232; Harmer 1923: 14; Van Deinse 1931: 260, 265



Figure 6 *Tursiops truncatus*, neonate, sex unknown. Case 20, 28 July 1922, Kijkduin. [photo: F.A. Donkersloot, archives RMNH]

case 21: October 1922

Juvenile, sex unknown, TL unknown. Stranded at Bloemendaal, province of Noord Holland. Only known from two mandibles in the ZMA (ZMA 11.408) originating from the former collection of dr. Metzelaar. On the jawbones is written "*Lagenorhynchus acutus*", which is an incorrect identification. This case is neither mentioned in one of the stranding lists by Van Deinse nor in the list by Schultz (1970). NTLJ 22/21.

case 22: 17 May 1923

Adult (senile), female (?), TL c. 330 cm. Found dead in 'het Hollands Diep' near Strijensas, province of Zuid Holland. The case was reported to A.B. van Deinse by dr J. Büttikofer (Rotterdam). The dead animal was exhibited during the Whitsuntide in Strijensas. An attractive photograph of the animal on a farm cart by D.P. Boer ('s-Gravendeel) is in the archives of the RMNH and in the archives of the author (Fig. 7). Drawing of three teeth and a drawing of the skeleton of the right carpus by A.B. van Deinse and an

1:1 scale cardboard model of the left pectoral fin in archives RMNH. Right pectoral fin, scapula, 2 lumbar vertebrae, the skull with some teeth, 1 eye and the blow hole were collected for the collection of a secondary school at Rotterdam, but are now all untraceable. The other pectoral fin, the mandibles and one scapula were collected by A.B. Perduyn, Strijensas, but are also untraceable. This case is only documented by the photograph and the drawings by A.B. Van Deinse.

Literature: Van Deinse 1923: 229-230, 231; Harmer 1925: 19; Van Deinse 1931: 260, 265; Schultz 1970: 186

case 23: 29 August 1923

Neonate, male, TL 150 cm. Found on the beach at Terheide, province of Zuid Holland. Right pectoral fin was collected by J. Knock (Schiedam), but is untraceable. Drawing of the skeleton of the right carpus by A.B. van Deinse in archives RMNH. Harmer (1925) lists, on authority of Van Deinse, two strandings of neonate *Tursiops* on 29 August 1923,



Figure 7 *Tursiops truncatus*, adult, female. Case 22, 17 May 1923, Strijensas. [photo D.P. Boer; archives E.J.O. Kompanje]

one of 150 cm and one of 98 cm, both stranded at Terheide. Van Deinse (1923) and Van Deinse (1931) also mention this second case. Both specimens were found by J. Knock (Schiedam). Given the length, the second case does not seem a reliable identification to me, and possibly represents a harbour porpoise. Van Deinse (1931: 266) concluded that the second case concerns a premature birth, without actually having seen the animal. This animal was severely decomposed, so the identification and/or length should be judged with some reservation.

Literature: Van Deinse 1923: 232; Harmer 1925: 19; Van Deinse 1931: 260, 265-266; Schultz 1970: 186

case 24: 07- 08 August 1924

Neonate, female, TL 162 cm. Stranded alive at Scheveningen, province of Zuid Holland. Killed and buried on the beach. On August 8, 1924 the dolphin was exhumed by F.P. Koumans (The Hague), who collected the skull, pelvic bones and pectoral fins. The RMNH holds the skull, hyoid and pectoral fins (RMNH 1667). The hyoid in the box with the skull and fins is not of a *Tursiops*, but of an adult *Phocoena*. Photographs of the head and pectoral fins by F.P. Koumans, cardboard scale 1:1 models and radiographs of both pectoral fins are in the archives of the RMNH. According to Broekema (1983) the pelvic bones are also in the collection of the RMNH, but they are untraceable now. CBL 352 mm, RL 182 mm, GPOB 156 mm, NTUJ 24/23, NTLJ 20/21.

Literature: Harmer 1925: 19; Koumans 1925: 282-284; Harmer 1927: 74; Van Oort 1928: 21; Van Deinse 1931: 260, 264; Schultz 1970: 186; Broekema 1983: 69

case 25: 14 August 1925

Adult, sex unknown, TL c. 300 cm. Found at Wijk aan Zee by M.J. van Sambeek (Enschede). Skull and hyoid were collected and stored in the Natuurmuseum Enschede. The skull is still in this museum (NME

400000439). The hyoid is not traceable anymore.

Literature: Van Deinse 1931: 260

case 26: 29 November 1925

Sub-adult, male, TL 245 cm Found on the beach south of IJmuiden, province of Noord Holland by J.P. Strijbos. A bycatch; the abdomen was cut open by fishermen (Kompanje 1998). The skull and hyoid are in the RMNH (RMNH 1466), both pectoral fins are in the NMR (NMR 999000389). Three different photographs (one of the entire animal on the beach, two of the head) and a radiograph of both pectoral fins are kept in the archives of the RMNH. Broekema (1983), incorrectly, gives 1926 as year of stranding (the date '29 November 1926' written on the label of the skull is incorrect). CBL 449 mm, RL 235 mm, GPOB 253 mm, NTUJ 25/25, NTLJ 26/25. AgeGLG: 1.

Literature: Van Oort 1926: 11; Strijbos 1926; Van Deinse 1931: 260; Schultz 1970: 186; Broekema 1983: 69

case 27: December 1925 (17 July 1926)

Adult, sex unknown, TL c. 300 cm. Stranded at 'de Beer' (close to the landing stage, Nieuwe Waterweg), Hoek van Holland zuid, province of Zuid Holland (Rotterdam). Found in decomposed state by J. de Klerk on 17 July 1926. A photograph of the cervical and first thoracic vertebrae and a drawing of the skeleton of the right carpus by A.B. van Deinse are kept in the archives of the RMNH. The NMR holds the cervical vertebrae, the first thoracic vertebra, humerus, radius and ulna and a hyoid (NMR 999000390) dated 17 July 1926.

Literature: Harmer 1927: 32; Van Deinse 1931: 260, 266; Schultz 1970: 186

case 28: Augustus 1926

Adult, sex unknown, TL c. 325 cm. Found in decomposed state at IJmuiden, province of Noord Holland by J.P. Strijbos. He collected the 13th tooth from the left mandible. Harmer

(1927) gives, on authority of Van Deinse, strandings of *Tursiops* for 1925/1926. Regarding this stranding August 1926 is given as stranding date. The only proof is one worn tooth which is kept in the RMNH (no collection number).

Literature: Harmer 1927: 32; Van Deinse 1931: 161; Schultz 1970: 186

case 29: 1927

Adult, sex unknown, TL c. 300 cm. Found stranded at Wissekerke, Sophiapolder, Noord Beveland, province of Zeeland. Collected by A.B. van Deinse en dr L. Gelderman (Kortgene) on July 18, 1928, in decomposed state. The almost complete mounted skeleton is in the NMR (NMR 999000184). Drawing of the skeleton of the left carpus by dr A.B. van Deinse in the archives of the RMNH. Radiograph of the pelvic bones in the archives of the RMNH.

Literature: Van Deinse 1931: 261, 266 - 267; Schultz 1970: 187

case 30: 16 January 1927

Neonate, female, TL c. 160 cm. Found on the beach south of Zandvoort (beachmarker 70), province of Noord Holland by J.P. Strijbos. Complete and mounted skeleton is kept in the RMNH (RMNH 1558). Three different photographs by J.P. Strijbos are kept in the archives of the RMNH and in the archives of the author (Fig. 8). Broekema (1983), incorrectly, gives 1588 as collection number.

Literature: Van Oort 1927: 13; Van Deinse 1931: 261, 266; Slijper 1936: 294; IJsseling & Scheygrond, 1943: pl. 55.A & 1949: pl. 63.A; Schultz 1970: 187; Broekema 1983: 69

case 31: 05 February 1927

Neonate, female (?), TL c. 165 cm. Found on the beach near 's-Gravenhage ('het stille strand') by A. de Lorm ('s-Gravenhage). The skeleton of this specimen was collected for the 'Museum voor Onderwijs', 's-Gravenhage (now Museon). Two photographs of the head by A.J. de Lorm are kept in the archives of the RMNH. Schultz (1970) gives as place of



Figure 8 *Tursiops truncatus*, neonate, female. Case 30, 16 January 1927, Zandvoort. [photo J.P. Strijbos, archives RMNH]

stranding 'Scheveningen'. The mounted skeleton in the private collection of mr L.A. Man in 't Veld, Vlaardingen, most probably concerns this case.

Literature: Van Deinse 1931: 261, 266; Schultz 1970: 187

case 32: 28 August 1927

Neonate, male, TL 162 cm. Found on the beach at Wassenaarse Slag, province of Zuid Holland by A.W. Lacourt. Complete mounted skeleton is in the RMNH (RMNH 1609). Also some 'soft parts' were collected for the collection of the RMNH, but these could not be traced during this study. CBL 342 mm, RL 175 mm, GPOB 159 mm, NTUJ 26/26, NTLJ 25/25. AgeGLG: 0.

Literature: Van Oort 1927: 25; Van Deinse 1931: 261, 267; Schultz 1970: 187; Broekema 1983: 69

case 33: 18 May 1928

Sub-adult, sex unknown, TL 230 cm. Found by J.P. Strijbos nearby De Koog, island of Texel, province of Noord Holland. The left scapula was collected and is now kept in the NMR (NMR 999000180).

Literature: Van Deinse 1931: 261; Schultz 1970: 187

case 34: beginning of June 1928 or 25 June 1928 and 01 July 1928

Adult, male, TL c. 350 cm. Found on June, 25 1928 by W. van Dieren (Terschelling) on the beach north of the De Koog, Island of Texel, province of Noord Holland. Van Dieren collected two teeth, which he send to A.B. van Deinse. On 1 July 1928 the same animal was also found by dr. P. Wagenaar Hummelinck (Vlaardingen) who collected 15, partly severely worn, teeth and who made four different photographs. The 17 teeth are preserved in the RMNH (no collection number). The four different photographs (one of the entire animal on the beach, one of the animal in dorsal, one in ventral and one in

frontal view) are kept in the archives of the RMNH. According to Van Deinse (1946: 173) the animal was found in the beginning of June 1928. Not in the review by Schultz (1970).

Literature: Van Deinse 1931: 261, 267; Van Deinse 1946: 173; Schultz 1970: 187

case 35: 08 July 1928

Juvenile, sex unknown, TL unknown. Found on the beach at Wassenaar (beach marker 95-96), province of Zuid Holland. Two photographs by Jhr. mr. C. C. Cix (one of the entire animal on the beach, one of the head) in the archives of the RMNH present the only evidence of the stranding.

Literature: Van Deinse 1931: 261, 267; Schultz 1970: 187

case 36: 25 June 1929 and February 1930

Adult, male, TL c. 325 cm. Found stranded on 'De Beer', Hoek van Holland zuid, province of Zuid Holland by J.P. Strijbos, who, at that occasion only collected the skull. In February 1930 A.B. van Deinse and J.P. Strijbos collected the remaining bones. Almost all vertebrae, costae, both scapulae, one humerus, one radius are in the RMNH (RMNH 31193, formerly RMNH 1769 & 1877). Two photographs by E. Nieuwenhuis and five by J.P. Strijbos are kept in the archives of the RMNH. AgeGLG: 18.

Literature: Van Oort 1930: 7, 24; Strijbos 1930; Van Deinse 1931: 261, 267-268; Slijper 1936, Abb. 209; Schultz 1970: 187; Broekema 1983: 69

case 37: 27 or 28 June 1929

Adult, male, TL c. 320 cm. Found on the beach near Zandvoort (beachmarker 64). Was buried on the beach and subsequently exhumed on 3 July 1929 by J.P. Strijbos. The mounted skeleton is in the RMNH (RMNH 1758). Three photographs of the exhumed animal (one in lateral view, one in ventral

view and one of the mouth showing the teeth) and one painting of the entire animal by M.A. Koekoek (Fig. 1) in the archives of the RMNH. A radiograph of the pelvic bones is kept in the archives of the RMNH. Both eyes and penis of a *Tursiops* preserved in alcohol were discovered in the collection of the RMNH. On the label, as date of stranding is given, 4 July 1929 and as place of stranding Zandvoort. The collection number is RMNH 1758, which is the same number as the skeleton of the *Tursiops* collected on 27/28 June 1929, so I regard these two cases as being one. CBL 542 mm, RL 299 mm, GPOB 300 mm, NTUJ 23/24, NTLJ 21/22. AgeGLG: 11 (clear GLG's).

Literature: Van Oort 1929: 28; Van Deinse 1931: 261, 268; Slijper 1936: 183, 203, 281 (abb. 126), 326-327, 416-417, Abb. 213; Schultz 1970: 187; Broekema 1983: 69

case 38: 25 July 1929

Juvenile, female, TL 180 cm. South of Zandvoort. Found by A.B. van Deinse and T. de Haas in a decomposed state. Ten teeth, pelvic bones, humerus, radius and ulna were collected by A.B. van Deinse. The pelvic bones are nowadays in the RMNH (no collection number), 10 teeth, humerus, radius and ulna are in the NMR (NMR 999000206). A radiograph of the pelvic bones is kept in the archives of the RMNH.

Literature: Van Deinse 1931: 261; Schultz 1970: 187

case 39: 01 August 1929

Adult, sex unknown, TL c. 300 cm. This freshly dead dolphin was found on the island of Terschelling, province of Friesland (at beachmarker 11). The only documentation on the stranding is one photograph by G. Dijken (Groningen) (Fig. 9). The animal was buried on the beach.

Literature: Van Deinse 1931: 261, 268; Schultz 1970: 187



Figure 9 *Tursiops truncatus*, adult, sex unknown. Case 39, 1 August 1929, island of Terschelling, [photo G. Dijken, archives RMNH]

case 40: "Winter 1929-1930"

Adult specimen, sex unknown, TL unknown. The skull and some vertebrae were found by J.P. Strijbos on July, 6 1930 at beachmarker 23 on the island of Texel, province of Noord Holland. Three thoracic vertebrae were collected (RMNH 1860). A photograph of the skull and some vertebrae on the beach is kept in the archives of RMNH. Lacking in the catalogue of Broekema (1983). Exact date of stranding remains unknown. Not in Schultz (1970).

Literature: Van Oort 1930: 32; Van Deinse 1931: 261, 268

case 41: September 1930

Juvenile, sex unknown, TL unknown. Found at the island of Vlieland, province of Friesland by F. Makkink and J. Böhmers. The skull and the atlas were collected by J. Böhmers for A.B. van Deinse. Nowadays the skull and 20 teeth are in the RMNH (RMNH 37957) and the atlas in the NMR (NMR 999000392). The skull is not mentioned in

the catalogue of Broekema (1983).

Literature: Van Deinse 1933: 8-9; Van Deinse 1946: 174-175, 185

case 42: 05 July 1930

Adult specimen, sex unknown, TL c. 360 cm. Stranded at Hoek van Holland, province of Zuid Holland. Only one photograph of the stranded animal in the archives RMNH (Fig. 10). This stranding is not mentioned by Van Deinse (1931, 1933 or 1946) or by Schultz (1970).

case 43: 08 April 1931

Adult specimen, female, TL c. 275 cm. Stranded north of 't Horntje, near Oudeschild, island of Texel, province of Noord Holland. Two photographs (one of the entire animal in ventral view and one of the head) by Jac. Vuyk (The Hague) are kept in the archives of the RMNH. Not in Schultz (1970).

Literature: Van Deinse 1946: 176-177



Figure 10 *Tursiops truncatus*, adult, sex unknown. Case 42, 5 July 1930, Hoek van Holland. [photo anonymous, archives RMNH]

case 44: 31 May 1931 and end of June 1931, 2 July 1931, 1 August 1931

Adult specimen, male, TL c. 290 cm. Found on 31 May 1931 at the beach near beachmarker 18, de Koog, island of Texel, province of Noord Holland. Two teeth were collected by H.J.A. Kraai (Texel) on May 31, 1931 (collection RMNH, no collection number). One photograph of the dolphin in ventral view by H.J.A. Kraai is in the archives of the RMNH. On one of the teeth a cirriped *Balanus balanoides* was found.

The archives of the RMNH also contains a photograph made by P. Cornet of a dead bottlenose dolphin of 300 cm length, found south of De Koog, island of Texel on the end of June 1931. Two teeth are in the RMNH (no collection number). This concerns, most probably, the same animal as the one from 31 May 1931. Van Deinse (1946) gives two different strandings, one on 31 May 1931 found by H.J.A. Kraai and one on the end of June 1931 found by M.J. Mol and P. Cornet. As said before, they are the same case.

The collection of the RMNH also contains another tooth, collected by M.J. Mol, from an adult *Tursiops* with a TL of 300 cm, found in July 1931 at De Koog, island of Texel. On one of the teeth, again, a cirriped *Balanus balanoides* was found. This also concerns the same animal.

On July 2, 1931 a c. 250 cm long decomposed *Tursiops* was found by A.J. Jansen (Amsterdam), also south of De Koog (Van Deinse 1933: 9). Is this also the same animal? Van Deinse (1933: 9) mentioned that the skull, one scapula, one humerus and two caudal vertebrae were collected by Jansen and donated in December 1931 to Van Deinse. The right scapula, the left mandible, one bulla and one caudal vertebra are kept in the collection of the NMR (NMR 999000175). Van Deinse (1946: 174-175) also list a specimen of unknown sex, unknown length found on August 1, 1931 nearby De Koog.

I regard all these cases as the stranding of the same animal, found and reported by different people.

Literature: Van Deinse 1933: 9-10; Van Deinse 1946: 174-175, 185; Schultz 1970: 187

case 45: July 1931

Neonate, sex unknown, TL c. 150 cm. Found on the beach between Egmond and Castricum, province of Noord Holland at beachmarker 41-42. One tooth was collected for Van Deinse. This tooth is kept in the collection of the RMNH (no collection number), one photograph of the animal on the beach in lateral view by W.P. de Vries in the archives of the RMNH (Fig. 11). The skull was collected by De Vries.

Literature: Van Deinse 1933: 9; Van Deinse 1946: 174-175, 185; Schultz 1970: 187

case 46: 7 September 1931

Sub-adult, male, TL c. 285 cm, weight c. 138 kg. Found on the beach between Zandvoort en Noordwijk, province of Noord Holland, beachmarker 72, by F. Niesen. Complete and mounted skeleton in RMNH (RMNH 1998). Seven photographs (two of the head, one of the animal in dorsal view, one of the animal in ventral view, one in frontal view and two photographs taken while collecting the animal) by J.P. Strijbos and F. Niesen in the archives RMNH. CBL 495 mm, RL 264 mm, GPOB 252 mm, NTUJ 26/27, NTLJ 24/24. AgeGLG: 2 (very poor section).

Literature: Strijbos, 1931; Strijbos, 1933; Van Deinse 1933: 10; Slijper 1936: 108, 293 (abb. 134); Boschma 1938: 30; Van Deinse 1946: 174-175, 185; Schultz 1970: 187; Broekema 1983: 69

case 47: 8 September 1931

Neonate, sex unknown, TL c. 150 cm. Found south of Zandvoort, province of Noord Holland. Found in decomposed state by a reliable finder (J.P. Strijbos). Despite the lack of documentation, a reliable case.



Figure 11 *Tursiops truncatus* neonate, sex unknown. Case 45, July 1931, between Egmond aan Zee and Castricum. [photo W.P. de Vries, archives RMNH]

Literature: Van Deinse 1933: 10-11; Van Deinse 1946: 174-175; Schultz 1970: 187

Case 48: 7 February 1932

Juvenile, sex unknown, TL 220 cm. Found south of Huisduinen, province of Noord Holland by dr J. Verwey and L. van 't Sant. Verwey was an experienced observer of *Tursiops* in the Marsdiep area, province of Noord Holland, making this case reliable. One tooth was collected by Van 't Sant, but is untraceable now.

Literature: Van Deinse 1933: 16; Van Deinse 1946: 174-175; Schultz 1970: 187; Verwey 1975: 99

case 49: 10 April 1932

Adult, sex unknown, TL c. 300 cm. Found by J.P. Strijbos north of Wijk aan Zee, province of Noord Holland. No further documentation. See also case 47. In the collection of the NMR is a right mandible of an adult *Tursiops*

which was collected by J.P. Strijbos in 1932 (NMR 999000176). Further documentation is lacking. Possibly this mandible relates to this stranding.

Literature: Van Deinse 1933: 16; Van Deinse 1946: 174-175; Schultz 1970: 188

case 50: 5 June 1932

Adult, male, TL c. 340 cm. Found at Egmond aan Zee, province of Noord Holland by J. Arntz (Alkmaar). Van Deinse received three teeth, two of them severely worn, collected by the finder. These three teeth are kept in the collection of the RMNH (no collection number). On a later date the dolphin was found again by dr E.J. Slijper.

Literature: Van Deinse 1933: 16; Van Deinse 1946: 174-175; Schultz 1970: 187

case 51: 'June 1932'

Adult, sex unknown, TL unknown. Only documented by a left humerus in the collection of the NMR (NMR 999000181). Neither mentioned in one of the lists by Van Deinse nor in the review by Schultz (1970).

case 53: 25 June 1932

Neonate, female, TL 125 cm. Found by dr A.B. van Deinse south of Wassenaarse slag, province of Zuid holland. Complete mandible and pelvic bones collected by dr A.B. van Deinse. Both mandibles, without teeth, are kept in the NMR (NMR 999000174), pelvic bones in the RMNH (no collection number).

Literature: Van Deinse 1933: 17; Van Deinse 1946: 174-175; Schultz 1970: 187

case 54: 08 July 1932

Adult, male, TL c. 300 cm. Found south of Egmond aan Zee, province of Noord Holland. Found in decomposed state by dr E.J. Slijper. Only documented by one photograph by E.J. Slijper of the animal on the beach in ventral view (archives RMNH).

case 55: 26 August 1932

Adult, male, TL 335 cm. Found severely decomposed by dr J.W. van Dieren and J.P. Strijbos on de Noordvaarder, Spathoek, Island of Terschelling, province of Friesland. Skull and sternum in the NMR (NMR 999000183), pelvic bones in the RMNH, and two photographs in the archives of the RMNH.

Literature: Van Deinse 1933: 17; Van Deinse 1946: 174-175, 185; Schultz 1970: 188

case 56: 30 August 1932

Adult, sex unknown, TL c. 250 cm. Found on the beach at Renesse, Schouwen, province of Zeeland. Bycatch, abdomen cut open by fishermen (see Kompanje 1998). The skull and the hyoid are in the RMNH (RMNH 2113). The teeth are worn. This case is also documented

by two photographs by H. Kalkman of the animal on the beach (one in dorsal view, one in fronto-ventral view. CBL 557 mm, RL 318 mm, GPOB 309 mm, NTUJ 26/26, NTLJ 25/24. AgeGLG: 11.

Literature: Van Deinse 1946: 174-175; Schultz 1970: 188; Broekema 1983: 69

case 57: 2 October 1932

Juvenile, sex unknown, TL 230 cm. Found between beachmarker 6 and 8 at Huisduinen, province of Noord Holland. Only known from the report by dr J. Verwey (1975), who was an experienced observer of *Tursiops* in the Marsdiep area, province of Noord Holland.

Literature: Verwey 1975: 99

case 58: April 1933

Adult, sex unknown, c. 300 cm. Found on the Eastern dike of Schokland, province of Overijssel. The skull was collected by dr. Havinga for the 'Rijksinstituut voor Visserijonderzoek, Oost-Indisch huis, Amsterdam', but is now kept in the RMNH (RMNH 12597). CBL 557 mm, RL 318 mm, GPOB 309 mm, NTUJ 26/26, NTLJ 25/24. AgeGLG: 16+ (very poor sections, top of tooth worn flat).

Literature: Van Deinse 1946: 174-175, 185-186; Schultz 1970: 188; Broekema 1983: 70

case 59: May 1933

Subadult, female, TL unknown. Found at 'Buiten IJ' near Durgerdam, province of Noord Holland. This case is only known from a newspaper photograph published in May 1933 ('Rotterdamsch Nieuwsblad' 18 May 1933; 'De Telegraaf' 19 May 1933) and some small newspaper notations ('De Telegraaf' 22 May 1933; 'Het Volk', 27 May 1933). During this months several Harbour porpoises, Bottlenose dolphins and Harbour seals died after the closure of the Zuiderzee.

case 60: 29 July 1933

Adult, sex unknown, TL c. 300 cm. Found nearby beachmarker 16 on the island of Texel, province of Noord Holland. Three teeth were collected for dr A.B. van Deinse. These three severely worn teeth are now in the collection of the RMNH (no collection number).

Literature: Van Deinse 1946: 174-175; Schultz 1970: 188

case 61: 23 September 1933

Adult, sex unknown, TL 326 cm. Found between IJmuiden and Zandvoort, province of Noord Holland. Two photographs by J.P. Strijbos are in the archives of the RMNH. The animal was collected and transported to Natura Artis Magistra, Amsterdam, but it is unknown what happened with the cadaver. Van Deinse (1946: 174-175) reported this stranding in 1946, so it is strange that in a later publication (Van Deinse 1952: 21) he wrote that he didn't know of this particular stranding before December 1951.

Literature: Strijbos 1933b; Van Deinse 1946: 174-175; Van Deinse 1952: 21-22; Schultz 1970: 188

case 62: 21 May 1934

Juvenile, sex unknown, TL unknown. Found on the beach between De Koog and Westerslag, island of Texel, province of Noord Holland. Only documented by one photograph made by A. Vlietstra (Beverwijk) of the animal in dorsal view (archives RMNH).

Literature: Van Deinse 1946: 174-175; Schultz 1970: 188

case 63: 28 May 1934

Juvenile, male, TL c. 200 cm. Found by C.B. Reuser at Noordwijk aan Zee, province of Zuid Holland. Complete mounted, severely diseased skeleton in the RMNH (RMNH 2247) (Kompanje, in prep). Slijper (1936) judged the second thoracic up to and including the eight lumbar, the 10-18 lumbar and 1-8 caudal vertebrae 'pachyostotisch angeschwollen'. CBL 411 mm, RL 209 mm,

GPOB 202 mm, NTUJ 21/22, NTLJ 22/23. AgeGLG: 1.

Literature: Van Deinse 1946: 176-177; Slijper 1936: 485; Schultz 1970: 188; Broekema 1983: 69

case 64: 30 June 1934

Neonate, female, TL 116 cm. Found by the wife of dr A.B. van Deinse, Mrs W. van Deinse-Kalkman between Zandvoort and Noordwijk aan Zee, province of Zuid Holland. The upper lips show 2 x 6 hairs, the teeth being below the gum. The snout and both tympanic bullae are in the NMR (NMR 999000208). The pelvic bones and one tooth are in the collection of the RMNH (no collection numbers).

Literature: Van Deinse 1946: 176-177, 186; Schultz 1970: 188

case 65: 28 June 1934 or 27 - 28 July 1934

Juvenile, sex unknown, TL c. 180 cm. Found by dr L.D. Brongersma nearby de Koog, island of Texel, province of Noord Holland. The complete skeleton is kept in the RMNH (RMNH 2263). On the label attached to the skull 28 June 1934 is given as date of collecting. Severely diseased vertebrae (Kompanje, in prep). CBL 392 mm, RL 203 mm, GPOB 193 mm, NTUJ 26/24, NTLJ 22/23. AgeGLG: 0.

Literature: Boschma 1938: 28; Van Deinse 1946: 176-177, 186; Schultz 1970: 188; Broekema 1983

case 66: 14 August 1934

Neonate, male, TL 130 cm. Albino. Found between Harlingen and Zurich, province of Friesland. The cetologist dr E.J. Slijper collected pieces of skin, the skull and dorsal fin, pectoral fins, pelvic bones and tailflukes. Only the pelvic bones could be traced in the collection of the RMNH (no collection number). The archives of the RMNH contain the correspondence between Verwey/Slijper and Boschma/Slijper.

Literature: Slijper 1936: 8, 60-61, 128-129, 258-259, 299, 308; Boschma 1938: 39; Van Deinse 1946: 176-177, 186; Schultz 1970: 188

case 67: 16 May 1935

Adult, female, TL c. 275 cm. Found at Cadzand, Zeeuws Vlaanderen, province of Zeeland. The skull and the hyoid are in the RMNH (RMNH 2330). CBL 531 mm, RL 302 mm, GPOB 275 mm, NTUJ 22/23, NTLJ 22/22. AgeGLG: 5 (clear GLG's).

Literature: Van Deinse 1946: 176-177; Schultz 1970: 185; De Smet 1974: 37; De Smet 1981: 16; Broekema 1983: 69

case 68: 24 May 1935

Juvenile, female, TL 220 cm. Found on the beach (beachmarker 11) nearby Midsland, island of Terschelling, province of Friesland. Three photographs (two of the head, one in ventral view) in the archives of the RMNH. Some teeth were collected by the finder (G.W. Jongens, Terschelling).

Literature: Van Deinse 1946: 176-177, 186; Schultz 1970: 188

case 69: 15 Augustus 1935

Neonate, male, 140 cm. Found at Den Helder, province of Noord Holland. This case is only known from the publication by dr E.J. Slijper (1938) concerning the Corpus cavernosus of the penis of cetaceans.

Literature: Slijper 1938: 205

case 70: 01 November 1935

Adult, male, TL 338 cm. Found on the beach at Wissekerke, province of Zeeland. Complete mounted skeleton in RMNH (RMNH 2382). Five photographs by dr. L.D. Brongersma in the archives of the RMNH. CBL 540 mm, RL 299 mm, GPOB 297 mm, NTUJ 26/26, NTLJ 25/26. AgeGLG: 12+ (damaged section, top of tooth worn).

Literature: Van Deinse 1946: 176-177, 186; Schultz

1970: 188; Broekema 1983: 69

case 71: 04 March 1936

Adult, male, TL 306 cm. Found at the island of Texel, beachmarker 17, province of Noord Holland. The skull is in the collection of Ecomare, Den Burg, Texel (Natural History Museum Texel).

case 72: 12 April 1936

Juvenile, male, TL 210 cm. Found by J.J. ter Pelkwijk (Leiden) on the north side of the Vliehors, island of Vlieland, province of Friesland (Fig. 12). The skull is in the RMNH (RMNH 2450). Two photographs (one of the head, one of the animal in ventral view) and one detailed drawing by the finder in the archives of the RMNH. CBL 455 mm, RL 240 mm, GPOB 235 mm, NTUJ 27/26, NTLJ 24/24.

Literature: Boschma 1938b: 23; Van Deinse 1946: 176-177, 187; Schultz 1970: 188; Broekema 1983: 69

case 73: '08 May 1936' (c. 1905)

Adult, sex unknown, TL c. 300 cm. Skeletal remains found during an excavation in Muiderberg province of Noord Holland. The dolphin stranded there about 30 years earlier. One bulla tympanica in the collection of the ZMA (ZMA 23.715). Some bones were collected by Th. Mol, but they could not be retrieved.

Literature: Van Deinse 1946: 176-177, 186; Schultz 1970: 188

case 74: 16 May 1936

Adult, male, TL 300 cm. Found on the Marsdiep dike, off Westplein, Den Helder, province of Noord Holland. Only known by the report of dr J. Verwey, who was an experienced observer of *Tursiops* in the Marsdiep area, province of Noord Holland.

Literature: Verwey 1975: 105



Figure 12 *Tursiops truncatus*, juvenile, male Case 72, 12 April 1936, island of Vlieland. [photo J.J. ter Pelkwijk, archives RMNH]

case 75: 11 July 1936

Juvenile, male, TL 210 cm. Found by dr G.C.A. Junge and dr A.B. van Deinse on the beach between Zandvoort and IJmuiden, province of Noord Holland. Skull, left mandible and pelvic bones are kept in the RMNH (RMNH 2484). One photograph showing dr Junge and dr Van Deinse dissecting the animal on the beach is kept in the archives of the RMNH. CBL 448 mm, RL 228 mm, GPOB 229 mm.

Literature: Boschma 1938b: 21; Van Deinse 1946: 176-177, 187; Schultz 1970: 188; Broekema 1983: 69

case 76: 15 September 1936

Adult, male, TL 268 cm. South of Zandvoort, beachmarker 69, province of Noord Holland. According to Van Deinse the skull should be in the RMNH, but it was not found there. Pelvic bones in RMNH (no collection number). Three photographs (one of the animal in ventral view, one in dorsal view and one of the head) are in the archives of the RMNH.

Literature: Niesen, 1937; Van Deinse 1946: 176-177, 187; Schultz 1970: 189

case 77: 18 October 1936

Adult male, TL 285 cm. Found on the island of Ameland, at Hollum, province of Friesland. This case is only known from a photograph in a newspaper article.

Literature: Anonymus 1936; Van Deinse 1946: 176-177; Schultz 1970: 189

case 78: 29 October 1936

Adult, sex unknown, TL c. 350 cm. Found south of Wijk aan Zee, province of Noord Holland by H. v.d. Hout. One worn tooth was collected for dr A.B. van Deinse, and is now in the RMNH (no collection number).

Literature: Van Deinse 1946: 176-177, 187; Schultz 1970: 189

case 79: June 1937

Sub-adult, sex unknown, TL 230 cm. Found by dr L.G. Gelderman at Wissekerke, Noord Beveland, province of Zeeland. One mandible and one tooth were collected for dr A.B. van Deinse. Only the tooth could be traced in the collection of the RMNH (no collection number).

Literature: Van Deinse 1946: 176-177, 187; Schultz 1970: 189

case 80: 28 June 1937

Adult, sex unknown. Found by dr De Jong at Den Helder, province of Noord-Holland. Skull is in the ZMA (ZMA 2725). Not mentioned in any stranding list before.

case 81: July 1937

Adult, sex unknown, TL unknown. Found at Noordwijk aan Zee, province of Zuid Holland. Teeth worn. Only known from the skull in the collection of the RMNH (RMNH 3155). Not in one of the stranding lists or in the review by Schultz (1970). CBL 543 mm, RL 304 mm, GPOB 293 mm, NTUJ 25/24, NTLJ 24/24. AgeGLG: 10 (top of tooth worn down).

Literature: Broekema 1983: 69

case 82: 19 September 1937

Adult, male, TL c. 350 cm. Found on the beach at Renesse, Island of Schouwen, province of Zeeland, by J. Viergever. One severely worn tooth and pelvic bones in RMNH. Two photographs by R. ten Kate (Zierikzee) in the archives of the RMNH.

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 83: 14 November 1937

Sub-adult, sex unknown, TL c. 200 cm. Beached at Oostvoorne, province of Zuid Holland. Only known from a drawing of the head of the animal by Mrs B. Korpershoek (Rotterdam), kept in the archives of the RMNH.

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 84: 03 or 12 January 1938

Adult, female (?), TL 330 cm. Found in the harbour Flaauwers, Kerkwerf, Zierikzee, province of Zeeland. Only documented by one photograph of the animal in dorsal view and one drawing of the animal by J. Viergever, who found the animal.

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 85: 16 January 1938

Adult, sex unknown, TL c. 350 cm. Found on the beach at Harlingen, province of Friesland. The skull is in the RMNH (RMNH 3313). Correspondence between the RMNH and the finder (D. Nielsen) in the archives of the RMNH. The right mandible shows the result of pyogenic osteomyelitis. CBL 532 mm, RL 290 mm, GPOB 300 mm, NTUJ 23/23, NTLJ 24/24. AgeGLG: 8 (damaged section).

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189; Broekema 1983: 69

case 86: 22 May 1938

Adult, sex unknown, TL c. 200 cm. Found by H.J.A. Kraai on the island of Texel at beach-marker 24, province of Noord Holland. Five teeth were collected for dr A.B. van Deinse, now kept in the collection of the RMNH (no collection number).

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 87: 31 May 1938

Neonate, female, TL 120 cm. Found at the Flaauwers inlage, Kerkwerf, Zierikzee, Schouwen, province of Zeeland. Detailed description with measurements and five sketches by J. Viergever in the RMNH.

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 88: 23 July 1938

Neonate, male, TL 125 cm. Found at Scharendijke, Brouwershaven, province of Zeeland. Two drawings by J. Viergever in the archives of the RMNH.

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 89: 19 August 1938 and 30 October 1938

Juvenile, female, TL 178 cm. Found by dr A.B. van Deinse during his holiday at Westerschouwen. Pelvic bones at RMNH (no collection number), 6 teeth at NMR (NMR 9990-01157). One bottle of oil collected from the blubber in the collection of the RMNH, two bottles are in the NMR. Three photographs by dr A.B. van Deinse are kept in the archives of the RMNH (Fig. 13). On 30 Oktober 1938 the cadaver was still at the same place on the beach (archives 'Strandwerkgroep'). NTUJ 21/22, NTLJ 2 0 / 2 2 .

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 90: 21 August 1938

Sub-adult, sex unknown, TL c. 200 cm. Found on the Boschplaat, island of Terschelling by Sander van Deinse (Rotterdam). Six teeth are in the collection of the RMNH (no collection number). One of these teeth has two crowns merging into a common basal portion, representing a transitional stage in the splitting process. Two photographs of the dolphin are kept in the archives of the RMNH.

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 91: 9 September 1938

Adult, male, TL c.350 cm. Found at Loosduinen, province of Zuid Holland. Observed by dr G.C.A. Junge on location; not collected or photographed. Regarding the cetological



Figure 13 The two children of dr A.B. van Deinse with the juvenile female *Tursiops truncatus* found on 19 August 1938 at Westerschouwen (case 89). [photo Mrs W. van Deinse-Kalkman, archives RMNH]

experience of dr Junge, the identification of this dolphin must be correct.

Literature: Van Deinse 1946: 178-179, 187; Schultz 1970: 189

case 92: 08 October 1938 and 31 October 1938

Adult (?), sex unknown, TL c. 250 cm. Found at Hoek van Holland, province of Zuid Holland. Only known from the photograph and description in the article by De Jong (1952). Not collected. An adult *Tursiops* with a length of c. 260 cm was found on 31 October 1938 at Hoek van Holland, documented by two photographs in the archives of the RMNH. Most probably these two reports refer to the same case.

Literature: Van Deinse 1946: 178-179, 187; De Jong, 1952; Schultz 1970: 189

case 93: 14 July 1939

Adult, sex unknown, TL c. 350 cm. Found by dr P. Fockens (Rotterdam) between Bergen aan Zee and Kamperduin, province of Noord Holland. One tooth is in the RMNH (no collection number), two photographs (one of the head and one in ventral view) are in the archives of the RMNH.

Literature: Van Deinse 1946: 180-181, 188; Schultz 1970: 190

case 94: 22 October 1939

Adult, sex unknown (female ?), TL 310 cm. Found in decomposed state near Buren, island of Ameland. The NMR holds the pectoral fin in spirit, four severely worn teeth from the left lower jaw and one normal tooth from the left upper jaw (NMR 999000192) and the RMNH holds the pelvic bones. The skull, which had a diseased upper jaw was collected by W.E. Hildebrand, could not be retrieved. The archives of RMNH contains two photographs of the upper and lower jaw showing the deformations (pyogenic osteomyelitis).

Literature: Van Deinse 1939; Van Deinse 1946: 178-179, 188; Schultz 1970: 190

case 95: 19 or 20 November 1939

Adult, male, TL c. 300 cm. Found on the island of Schiermonnikoog, province of Groningen. Only known of one photograph of the animal in ventral view on the beach and a sketch, both by H.D. Onnes (Rotterdam), kept in the archives of the RMNH.

Literature: Van Deinse, 1939b.; Van Deinse 1946: 180-181, 188; Schultz 1970: 190

case 96: 'Winter 1939-1940', 04 February 1940

Adult, sex unknown, TL c. 330 cm. Found on the beach near Terheide, province of Zuid Holland. Probably stranded earlier in the 1939-1940 winter. Two photographs and one drawing by the malacologist P. Kaas are kept in the archives of the RMNH.

Literature: Kaas 1940; Van Deinse 1946: 180-181, 188; Schultz 1970: 190

case 97: '22 June 1940'

Adult, sex unknown, TL c. 250 cm. Found on the beach nearby 'De Slufter', island of Texel, province of Noord Holland. Found in severely decomposed state (skeleton with some remains of ligaments and flesh) by J.P. Strijbos, who made five photographs, which are in the archives of the RMNH. The skull was collected by Strijbos, who attached it to the house front of his holiday home at Den Hoorn on the island of Texel. Two photographs showing the skull on the house front are kept in the archives of the RMNH. Schultz (1970) gives as stranding date 12 June 1940.

Literature: Van Deinse 1946: 180-181, 188; Schultz 1970: 190

case 98: 28 July 1940

Adult, female, TL c. 300 cm. Found in decomposed state by beachmarker 11, beached at Formerum, island of Terschelling, province of Friesland. Only documented by one photograph by Prof dr L.F. de Beaufort in the archives of the RMNH.

Literature: Van Deinse 1946: 180-181, 188; Schultz 1970: 190

case 99: 13 August 1940

Adult, sex unknown, TL c. 350 cm. Found in severely decomposed state on the island of Texel, at beachmarker 24, province of Noord Holland by J.P. Strijbos. Strijbos collected the pelvic bones. One photograph by J.P. Strijbos forms the only evidence of this stranding (archives of the RMNH).

Literature: Van Deinse 1946: 180-181, 188; Schultz 1970: 190

case 100: 7 August 1941

Adult, female, TL c. 270 cm. Found at Katwijk aan Zee, province of Zuid Holland by A. van der Most van Spijk (Haarlem). Complete skeleton is in the collection of the RMNH (RMNH 4515). Two photographs by F. Niesen in the archives of the RMNH (Fig. 14). CBL 506 mm, RL 279 mm, GPOB 269 mm, NTUJ 25/25, NTLJ 23/23, AgeGLG: 10 (clear GLG's).

Literature: Boschma 1943: 14; Van Deinse 1946: 180-181, 188; Schultz 1970: 190

case 101: '13 October 1941'

Neonate, male, TL 147 cm. Found at Noordwijk aan Zee, province of Zuid Holland by W. Rijkers. Skull sold to the RMNH (RMNH 4595). Date is most probably not the stranding date, but the date that the skull arrived in the museum. Lacking in the stranding lists by Van Deinse and in the review by Schultz (1970). CBL 341 mm, RL 168 mm, GPOB 148 mm, NTUJ 24/24, NTLJ 21/21.



Figure 14 *Tursiops truncatus* adult, female. Case 100, 7 August 1941, Katwijk aan Zee; **a** complete specimen with audience; **b** detail of the head. [photo's F. Niesen, archives RMNH]

Literature: Boschma 1943: 15; Broekema 1983: 70

case 102: 22 July 1943

Adult, sex unknown, TL c. 325 cm. Found at Oostkapelle, province of Zeeland by W. Baard (Domburg). The rostrum, both mandibulae, 5 caudal vertebrae, 1 chevron and 2 teeth are in the RMNH (RMNH 5873). The tooth are severely worn. NTLJ 22/21.

Literature: Van Deinse 1946:180-181, 189; Boschma 1950b: 13; Schultz 1970: 190; Broekema 1983: 70

case 103: 11-12 September 1943

Adult, sex unknown, TL unknown. Found at Wieringen. Van Deinse (1944; 1946) reported that the skull was collected and deposited in the RMNH. The damaged skull without mandibles and teeth, and one stylohyoid are kept in the RMNH (RMNH 5868).

Literature: Van Deinse 1944: 21; Van Deinse 1946: 180-181, 189; Schultz 1970: 191; Broekema 1983: 70

case 104: September 1946

Adult, male, TL 347 cm. Island of Terschelling. The skeleton was collected for the Fries Natuurmuseum (Natural History Museum Friesland), Leeuwarden, province of Friesland (FNM 10068). According the database of the FNM the dolphin was collected on 6 Oktober 1946. The stomach of this dolphin contained 15 haddocks *Melanogrammus aeglefinus* with a length between 57 and 90 cm. NTUJ 21/21, NTLJ 19/19.

Literature: Van Deinse 1948: 23; Van Deinse 1957: 154

case 105: 7 June 1947

Adult, male, TL 277 cm. Found on the beach at Oostvoorne, province of Zuid Holland. Eight teeth are kept in the RMNH (no collection number).

Literature: Van Deinse 1948: 23

case 106: July 1947

Adult, male, TL 320 cm. Found in decomposed state on the beach at beachmarker 16, island of Terschelling, province of Friesland. Only known from two photographs by J. Kamstra (Rotterdam) (archives of the RMNH).

Literature: Van Deinse 1948: 23

case 107: 14 August 1946

Neonate, female, TL 138 cm. Found dying on the dike off the Westplein, Den Helder, province of Noord Holland. Only described by Verwey (1975: 86), who was an experienced observer of *Tursiops* and *Phocoena* in the Marsdiep area. Boschma (1950: 13) mentioned that the 'Zoologisch Station Den Helder' has sold a juvenile *Tursiops* to the RMNH in the year 1946. This transaction may concerns this case.

Literature: Verwey 1975: 86

case 108: 15 November 1947 or 29 November 1947

Juvenile, sex unknown, TL 182 cm. Found at Noordwijk aan Zee, province of Noord Holland. Van Deinse (1948) reported that nothing was saved in this case, but in the collection of the RMNH are a left and right mandible with teeth of an immature *Tursiops* with on the label place of stranding 'Noordwijk' and date of stranding 29 November 1947 (RMNH 7510). These mandibles, most probably, belong to the stranded *Tursiops* of 15 November 1947 and 29 November 1947 only indicates the date that the mandibles arrived in the RMNH. Not in the catalogue of Broekema (1983).

Literature: Van Deinse 1948: 23

case 109: 26 June 1948

Sub-adult, sex unknown, TL c. 250 cm. Found freshly dead near beachmarker 2 on the island of Schiermonnikoog, province of

Friesland. Four photographs by J.E. Hoekstra (Schiermonnikoog) form the only evidence of this stranding (archives RMNH).

Literature: Van Deinse 1949: 33

case I 10: 16 July 1948

Adult, male, TL unknown. Found on the beach at Noordwijk aan Zee, province of Zuid Holland. The skull and the hyoid are in the RMNH (RMNH 7651). AgeGLG: 22 (top of tooth missing).

Literature: Van Deinse 1949: 34; Broekema 1983: 70

case I 11: 22 September 1948

Neonate, male, TL unknown. Noordwijk aan Zee, province of Zuid Holland. The skull and hyoid (RMNH 7891) are in the RMNH.

Literature: Van Deinse 1949: 34; Broekema 1983: 70

case I 12 and case I 13: 22-23-26 September 1948

Juvenile, male, TL unknown. On the beach between Wassenaarse slag and Katwijk aan Zee, province of Zuid Holland. Van Deinse (1949) reported that the complete skeleton was collected for the RMNH. A complete skeleton with this stranding date and place is kept in the RMNH with the collection number RMNH 7893. Broekema (1983) added under collection number 7894: 'male, skeleton. Wassenaar/Katwijk, NL. 1948'. But in the RMNH, attached to the collection number 7894, six thoracic vertebrae of an adult *Tursiops* were found. On the label the finding locality 'Noordwijk aan Zee, 22 September 1948' is given. Furthermore, in the RMNH, collection number 7896 is attached to one thoracic vertebra of an adult male *Tursiops* collected by H.W. Lacourt. This dolphin, with a length of c. 300 cm was found on 26 September 1948 at Noordwijk aan Zee, beachmarker 80. Collection numbers RMNH 7893 and RMNH 7896 are lacking in the catalogue of Broekema (1983). The vertebrae

registered as RMNH 7894 and 7896 are most likely from the same animal. Skull measurements of RMNH 7893: CBL 474 mm, RL 262 mm, GPOB 247 mm, NTUJ24/23, NTLJ 24/24. AgeGLG (7893): 2.

Literature: Van Deinse 1949: 34; Broekema 1983: 70

case I 14: August 1949

Juvenile/Neonate, sex unknown, TL c. 170 cm. Found in decomposed state at beachmarker 19, island of Texel, province of Noord Holland by dr W.J. Bruins Slot. Two teeth were collected by the finder and sent to Van Deinse. These two teeth are now in the RMNH (no collection number).

Literature: Van Deinse 1951: 25

case I 15: 10 September 1949

Neonate, sex unknown, TL 138 cm. Found by F. Niesen, 4 km south of Zandvoort, at beachmarker 71, province of Noord Holland. One photograph of the stranded animal is in the archives of the RMNH.

Literature: Van Deinse 1951: 25

case I 16: March 1950

Sub-adult, female, TL 200 cm. Found freshly dead on the island of Texel, beachmarker 17, province of Noord Holland. The mandibles were collected for dr A.B. van Deinse, they are now kept in the collection of the NMR (NMR 999000178). The right mandible still contains 21 teeth. The evidence of correct identification is formed by these mandibles and the photograph published in the 'Texelse Courant' of 8 March 1950.

Literature: Texelse Courant 1950; Van Deinse 1951: 66

case I 17: 30 April 1950 and 3 August 1950

Adult, female, TL 318 cm. Island of Terschelling, Boschplaat, province of Friesland. Five teeth collected by the finder

(J.H. Stock) and send to dr A.B. van Deinse. These teeth are in the RMNH (no collection number). A drawing with measurements of the animal by the finder is in the archives of the RMNH. This animal was rediscovered on 3 August 1950 at the same location by members of the 'Strandwerkgroep'.

case 118: 'August' 1950

Adult, sex unknown, TL unknown. Skull without mandibles, teeth or bullae found on the beach between Scheveningen and Katwijk aan Zee, province of Zuid-Holland. The skull was donated to B. Hoekstra, Almelo, who keeps the specimen in his private collection (coll.nr. 1301). Exact date of stranding unknown.

PERIOD 3: 1951 - 1975

THE START OF THE DECLINE

During this period the decline in the numbers of *Tursiops* in Dutch coastal waters set in. Addink & Smeenk (1999) reported the same for the harbour porpoise in Dutch coastal waters. During this period 132 recordings of a stranded *Tursiops* were registered. In 57 cases some form of reliable evidence was found (8 neonates and 49 juveniles/ (sub) adults), in 75 cases this evidence was lacking. After the death of dr A.B. van Deinse in 1965, the reporting system broke down, and it was not until 1970 that the system was reorganised again by the RMNH and the ZMA. Between 1965 and 1970 several strandings must have been missed.

case 119: 08 January 1951

Neonate, female, TL 124 cm. On the beach at IJmuiden, province of Noord Holland. One lumbar vertebra is in the ZMA (ZMA 1401).

case 120: April 1951

Sub-adult, male, TL 268 cm. Island of Texel. The skeleton is in the ZMA. A sole *Solea solea* was found wedged in the throat of this dolphin. NTUJ 21/21, NTLJ 22/22.

Literature: Anonymus 1951a; Anonymus 1951b;

Verwey 1975: 128

case 121: 22 September 1952

Juvenile, male. Beached between Egmond aan Zee and Castricum, beachmarker 41, province of Noord Holland. The complete skeleton is in the ZMA (ZMA 2721)

case 122: 5 December 1952

Adult, male, TL unknown. Island of Terschelling, beachmarker 14, province of Friesland. Found by C. Zorgdrager. Both mandibles, without teeth, are in the NMR (NMR 999000177). Not mentioned in one of the stranding lists.

case 123: 8 March 1953

Juvenile, sex unknown, TL unknown. Found at Scheveningen, nearby beachmarker 100, province of Zuid Holland. One lumbar vertebra is kept in the collection of the NMR (NMR 999000391)

case 124: 24 June 1953

Juvenile, sex unknown, TL 218 cm. Found between beachmarkers 15 and 16 on the island of Terschelling, province of Friesland. Six teeth are in the collection of the RMNH (no collection number)

case 125: 31 August 1953

Adult, male, TL 358 cm. At beachmarker 96, south of Wassenaarse slag, province of Zuid Holland. Complete skeleton is in the RMNH (RMNH 11952). CBL 555 mm, RL 304 mm, GPOB 317 mm, NTUJ 25/23, NTLJ 24/23.

Literature: Van Deinse 1954: 48

case 126: 8 November 1953

Neonate, female, TL 140 cm. Found by J. de Blok, three km south of the 'Donkere duinen', Den Helder, province of Noord Holland. Umbilicus was still open. Documented by a detailed letter from I. Kristensen.

Literature: Van Deinse 1954: 48-49

case 127: 28 February 1954

Juvenile, sex unknown, TL unknown. Found on the beach at Hoek van Holland-zuid, 'De Beer'. Only documented by one photograph by D.B. Jonker (Delft) in the archives of the RMNH (Fig. 15).

case 128: '03 November 1954'

Adult, sex unknown, TL unknown. A skull without rostrum was found on the beach near Huisduinen, province of Noord Holland by G.J. de Bruyn. This skull is in the collection of the RMNH (RMNH 12458).

case 129: 20 June 1955

Adult, sex unknown, TL c. 250-300 cm. Found in decomposed state on the island of Ameland, province of Friesland. Only documented by one photograph by S. v.d. Hart

(Haarlem) of the cadaver on the beach (archives of the RMNH).

case 130: July 1955

Adult, female, TL c. 260 cm. Found in decomposed state on the island of Schiermonnikoog, province of Friesland. Van Deinse received two teeth, which could not be retrieved. Documented by two photographs made by the finder (archives of the RMNH).

Literature: Van Deinse 1957: 154

case 131: 14 July 1955

Sub-adult, sex unknown, TL 250-300 cm. Found freshly dead on the island of Ameland, near Nes, province of Friesland. The right mandible with 17 teeth is in the NMR (NMR



Figure 15 *Tursiops truncatus* juvenile, sex unknown. Case 127, 28 February 1954, De Beer; Hoek van Holland-zuid. [photo D.B. Jonker; archives RMNH]



Figure 16 *Tursiops truncatus*, sub-adult, sex unknown. Case 131, 14 July 1955, island of Ameland. [photo anonymus, archives RMNH]

999000172). One photograph of the stranded animal in lateral view is in the archives of the RMNH and one in the archives of the author (Fig. 16).

case 132: 23 July 1955

Beached at Noordwijk aan Zee, between beachmarkers 78 and 79, province of Zuid Holland. The skeleton is in the RMNH (RMNH 12593).

Literature: Broekema 1983: 70

case 133: 'Winter 1955'

Adult, sex unknown, TL unknown. Collected on the beach at Bloemendaal by W.C.P. de Vries, province of Zuid Holland. The skull with 9 teeth is in the RMNH (RMNH 38137).

case 134: 13 February 1956

Adult, sex unknown, TL unknown. Found at Hoek van Holland-zuid, 'De Beer', province of Zuid Holland. Only documented by one photograph made by B. Jonkers (archives RMNH).

case 135: 16 July 1957

Neonate, female, TL unknown. Found freshly dead on the beach at Noordwijk aan Zee, province of Zuid Holland. Preserved on formalin for the collection of the RMNH (RMNH

16037). Four photographs by J.J. Staats are in the archives of the RMNH.

Literature: Van Deinse 1958: 184

case 136: 06 - 07 October 1957

Adult, female, TL 320 cm. Island of Vlieland, province of Friesland. The mounted skeleton is in the RMNH (RMNH 16512). Documented by two newspaper photographs (archives of the RMNH).

Literature: Anonymus 1957a, 1957b; Van Deinse 1958: 184; Broekema 1983: 70

case 137: 27 October 1957

Sub-adult, male, TL unknown. Found on the beach at Noordwijk aan Zee, province of Zuid Holland. The skull, the hyoid and 5 teeth are in the RMNH (RMNH 16162). CBL 467 mm, RL 250 mm, GPOB 240 mm, NTUJ 24/25, NTLJ 23/23. AgeGLG: 1.

Literature: Broekema 1983: 70

case 138: 1958

The Fries Natuurmuseum, Leeuwarden holds the calvarium (no collection number) of a *Tursiops* found in 1958 on the beach of 'het Oerd', Island of Ameland, province of Friesland.

case 139: June 1958

Adult, female, TL 320 cm. Found on the island of Texel at Oosterend. The director of the 'Natuurhistorisch Museum Texel' (now Ecomare), G.J. de Haan, dissected the animal. The stomach contained one spurdog *Squalus acanthias* with a length of 104 cm, a dory *Zeus faber* and three soles *Solea solea*. The skeleton was collected for the 'Natuurhistorisch Museum Texel' (now Ecomare), Den Burg.

Literature: Van Deinse 1959: 205

case 140: 06 July 1958

Adult, male, TL 380 cm. Found on the island of Schiermonnikoog, province of Friesland. Four severely worn teeth are kept in the RMNH (no collection number).

case 141: 23 July 1958

Adult, male, TL 354 cm. Found in decomposed state on the beach between Noordwijk aan Zee and Zandvoort, province of Noord Holland. The complete skeleton is in the RMNH (RMNH 16455). Two photographs by F. Niesen (Haarlem) of the dolphin on the beach (one of the head and one in dorsal view) are in the archives of the RMNH. CBL 561 mm, RL 312 mm, GPOB 311 mm, NTUJ 26/27, NTLJ 25/25. AgeGLG: c. 18 (very poor section).

Literature: Van Deinse 1959: 205; Broekema 1983: 70

case 142: 16 October 1958

Adult, female, TL 258 cm. Found freshly dead near Den Helder, province of Noord Holland. Detailed measurements by W.H. Dudok van Heel in the archives of the RMNH.

case 143: 02 July 1959

Adult, sex unknown, TL 275 cm. Found on the beach at Kijkduin, province of Zuid Holland. The skeleton was collected. The archives of the RMNH contain a photograph of the mounted skeleton, which was supposed

to be in the collection of an highschool (Rhedens college) at 's-Gravenhage. It is not clear what happened to the skeleton.

case 144: 07 July 1959

Adult, sex unknown, TL 325 cm. Found drifting at sea between the island of Ameland and the island of Schiermonnikoog. Two photographs of the stranded dolphin which were published in local newspapers form the only documentation of this case (archives of the RMNH).

Literature: Van Deinse 1960: 43

case 145: February 1960

Adult, sex unknown, TL c. 250 cm. The archives of the ZMA contains four photographs showing an adult fresh dead *Tursiops*. The photographs were made at Vlissingen, province of Zeeland. In the archives of the RMNH is a local newspaper article concerning a stranded dolphin with a TL of c. 250 cm in February 1960. The skeleton of an adult *Tursiops* is now in the Stedelijk Museum Vlissingen (no collection number), (pers. comm. Dick Broers). Most probably these three cases concern the same dolphin.

case 146: 24 February 1960

Adult, female, TL 272 cm. Found north of 't Horntje, island of Texel, province of Noord Holland. Reported by W.H. Dudok van Heel. Detailed measurements of the dolphin in the archives of the RMNH. NTUJ 23/23, NTLJ 22/22.

case 147: 30 August 1960

Adult (senile), male, TL 355 cm. Found on the island of Terschelling at beachmarker 15. The skull with four teeth is in the collection of the ZMA (ZMA 2943).

case 148: April 1961, collected 15 May 1961

Sub-adult, male, TL 235 cm. Found between Grote Keeten and Callantsoog, province of Noord Holland. Detailed measurements of

this case in the archives of the RMNH.

case 149: 20 May 1961

Neonate, male, 160 cm. One km south of Camperduin, province of Noord-Holland. A list of measurements and a drawing of the dolphin are kept in the archives of the ZMA.

case 150: 22 July 1961

Adult, male, TL 350 cm. Found at Hoek van Holland-zuid, 'De Beer'. Five photographs by C. Beukelman (Rotterdam) of the animal on the beach (two of the head, two in ventral view, one in dorsal view) in the archives of the RMNH.

Literature: Van Deinse 1962: 34

case 151: 28 July 1961

Juvenile female, TL 244 cm. Found at Den Helder. Detailed measurements in the archives of the RMNH. NTUJ 22/22, NTLJ 22/22.

case 152: 05 April 1962

Adult, female, TL unknown. Found dead, drifting at sea near the island of Texel, province of Noord Holland. The complete skeleton is in the ZMA (ZMA 4900)

case 153: 15 August 1962

Neonate, sex unknown, TL unknown. Found on the beach at Westkapelle, province of Zeeland. Only known from one photograph in the archives of the RMNH.

case 154: 09 February 1964

Juvenile, sex unknown, TL 240-245 cm. Found near Petten, province of Noord Holland by J.H. Koeman, who made two photographs (archives of the RMNH) and collected the skull. The skull could not be retrieved.

case 155: 06 July 1964

Adult, male, TL 318 cm. Found on the island of Terschelling, the Boschplaat, nearby beachmarker 23, by the cetologist dr P.J.H. van Bree. A stringlike, 16 cm long, outgrowth

of one of the tailflukes was found. See Kompanje (1998) for this deformation in harbour porpoises. Drawing by P.J.H. van Bree of the abnormal tailfluke in the archives of the RMNH.

case 156: 31 Augustus 1964

Adult, female, TL 328 cm. Found at St. Maartenszee, province of Noord Holland. Identification by J.W. Joosten, N.I.O.Z., Den Helder. A list of detailed measurements is kept in the archives of the RMNH.

case 157: 'January 1965'

Adult, sex unknown, TL unknown. On the beach at Noordwijk aan Zee between beachmarkers 79-81, province of Noord Holland. Only a skull fragment was found which is now kept in the collection of the RMNH (RMNH 18132). Exact date of stranding unknown.

Literature: Broekema 1983: 70

case 158: 14 July 1965

Adult, female, TL 325 cm. On the island of Terschelling, 'Schuitemat', province of Friesland. The complete skeleton, painted cast of the head and painted cast of the whole animal are in the ZMA (ZMA 8164). Van Utrecht (1969) gives as TL 345 cm and as TW 400 kg.

Literature: Van Utrecht 1969: 161

case 159: 28 July 1965

Neonate, male, TL 145 cm. Found on the beach at Noordwijk aan Zee, beachmarker 81, province of Noord Holland. Found by F. Niesen, who is an experienced biologist; identification is expected to be correct. No further evidence.

case 160: 06 November 1965

Adult, sex unknown, TL c. 300 cm. Found on the beach at Julianadorp, near Den Helder, province of Noord Holland. The skull is in the ZMA (ZMA 8617).

Literature: Van Bree & Duguy 1970: 12-13, fig. 2

case 161: 1 June 1966

Adult, female (?), TL 334 cm. Found in severely decomposed state on the beach on the island of Ameland, near beachmarker 8, province of Friesland. Three photographs of the cadaver on the beach by J.J. Staats are in the archives of the RMNH.

Literature: Anonymus 1966a, 1966b, 1966c

case 162: 12 July 1966

Adult, female directly post partum, TL 335 cm. Found at Callantsoog, beachmarker 16, province of Noord Holland. Drawing of the animal and list of detailed measurements are in the archives of the RMNH. The skull is kept in the Universiteitsmuseum Utrecht, formerly: Zoological Museum Utrecht (ZMU 95).

case 163: 2 August 1966

Adult, female, TL 320 cm. Found near beachmarker 38 at Egmond aan Zee, province of Noord Holland. The skull is in the ZMA (ZMA 9128). Two photographs of the stranded dolphin (one in ventral view, one of the head) are in the archives of the ZMA. CBL 543 mm, RL 307 mm.

case 164: 18 July 1967

Adult, male, TL 320 cm. Found in decomposed state at Westkapelle, province of Zeeland. The skull is in the RMNH (RMNH 19799). The archives of the RMNH contains a photograph from a newspaper report. CBL 544 mm, RL 298 mm, GPOB 291 mm, NTUJ 24/25, NTLJ 24/24.

case 165: 31 July 1967

Adult, sex unknown, TL unknown. Found near beachmarker 89 at Wassenaarse Slag, province of Zuid Holland. Skull and hyoid are in the RMNH (RMNH 19837). CBL 522 mm, RL 277 mm, GPOB 285 mm, NTUJ 22/22, NTLJ 24/23.

Literature: Broekema 1983: 70

case 166: 22 August 1967

Adult, female, TL 320 cm. Found freshly dead in the harbour of Lauwerszee. The skeleton is in the collection of the ZMA (ZMA 10.504). The archives of the RMNH contains one photograph showing the dolphin in ventral view on the beach. Van Utrecht (1969) gives as TL 326 cm and as TW 286 kg.

Literature: Van Utrecht 1969: 161

case 167: 23 October 1967

Neonate, male, TL 142 cm. Found between Wassenaar and Scheveningen, beachmarker 95, province of Zuid Holland by L. Verkaik. The skull is in the RMNH (RMNH 19872). List of detailed measurements is in the archives of the RMNH. CBL 308 mm, RL 150 mm, GPOB 142 mm, NTUJ 23/23, NTLJ 22/20. AgeGLG: 0.

case 168: 15 April 1968

Adult, sex unknown, TL c. 360 cm. Found at Westkapelle, province of Zeeland. Skull is in the Zeeuws Biologisch Museum, Domburg.

case 169: '2 September 1969'

Adult, sex unknown, TL unknown. Excavated north of the 'Meeuwenduinen', island of Vlieland, province of Friesland. Several skeletal remains (cervical vertebrae, 10 caudal vertebrae, 13 chevrons, 1 humerus, 1 radius, 1 ulna, 5 phalanxes, 2 metacarpalia, distal end of the right mandible, 1 stylohyoid, 6 ribs, 1 bulla tempani, 7 parts of ribs, 2 processus transversus of lumbar vertebrae) are in the ZMA (ZMA 12.529).

case 170: between 1965 and 1968

Juvenile, sex unknown, TL unknown. Found on 'the Dutch coast'. Exact place and date of stranding are unknown. The skull is kept in the RMNH (RMNH 23868)

Literature: Broekema 1983: 70

case 171: 12-19 October 1972

Neonate, male, TL 162 cm, TW 53,5 kg. Found on the beach at Zandvoort, province of Noord Holland by E.J. Schenckan and P. van Banning. The complete skeleton is in the ZMA (ZMA 15.383).

Literature: Van Bree & Husson 1974: 5

case 172: 11 February 1973

Calve, sex unknown, TL unknown. Found on the beach at Scheveningen by F. Sieval. The complete skull is kept in the NMR (NMR 999000187)

case 173: 7-8 July 1974

Adult, female, TL 331 cm, TW 275 kg. Found near beachmarker 9 on the island of Schiermonnikoog, province of Friesland. The skeleton is in the collection of the ZMA (ZMA 16.853). Four photographs (one of the head, one of the entire animal in ventral view, one in right lateral view and one in left lateral view) are in the archives of the RMNH and in the archives of the ZMA (ZMA 2535).

Literature: Husson & Van Bree 1976: 27

case 174: August 1975

Calve, sex unknown, TL unknown. The decomposed remains of a neonate were found on the beach near Hoek van Holland, province of Zuid Holland. The complete skull is kept in the NMR (NMR 999000188).

case 175: 8 September 1975

Adult, female, TL 293 cm. Found at Haamstede, Westerschouwen, Schouwen Duiveland, province of Zeeland. The complete skeleton is in the RMNH (RMNH 24797). A list of detailed measurements is in the archives of the RMNH. AgeGLG: 9 (difficult to read).

Literature: Husson & Van Bree 1976: 29; Vervoort 1976: 203; Broekema 1983: 70

PERIOD 4: AFTER 1975**AFTER THE DECLINE, STRAGGLERS ONLY**

In this period, the bottlenose dolphin is no longer a resident species in Dutch coastal waters. Strandings represent adult stragglers, some of them senile (like case 178 with an ageGLG 37+). During this period only 14 reports of bottlenose dolphin strandings are registered; nine are reliable and in five cases reliable evidence is lacking.

case 176: 17 November 1977

Adult, sex unknown, TL c. 340 cm. Beached at Domburg, province of Zeeland. The complete skeleton is in the RMNH (RMNH 26121). AgeGLG: c. 28+ (top of tooth missing).

Literature: Van Bree & Smeenk 1978: 16; Vervoort 1979: 246; Broekema 1983: 70

case 177: 24 August 1978

Adult, female, TL c. 310 cm. Found near Breskens, province of Zeeland. The complete skeleton is in the RMNH (RMNH 27044). Three photographs are kept in the archives of the RMNH (Fig. 17). AgeGLG: 11 (difficult to read).

Literature: Anonymus 1978a, 1978b; Vervoort 1980: 242; Van Bree & Smeenk 1982: 22; Broekema 1983: 70

case 178: 25 June 1979

Adult (senile), female, TL 337 cm. Found at Vlissingen, province of Zeeland. The skull and the hyoid are in the RMNH (RMNH 28061). AgeGLG: 37+ (top of tooth worn flat).

Literature: Van Bree & Smeenk 1982: 23; Broekema 1983: 70

case 179: 18 December 1980

Adult, female, TL 310 cm, TW 282,5 kg. Island of Schiermonnikoog, beachmarker 18, province of Friesland. The complete skeleton is in the ZMA (ZMA 21.227). The archives of



Figure 17 *Tursiops truncatus*, adult, female (right). Case 177, 24 August 1978, Breskens. [Photo C.J. de Boer; archives RMNH]

the RMNH contains a newspaper article with a photograph of dr P.J.H. van Bree with the dead Tursiops (in the article identified as white-beaked dolphin).

Literature: Van der Hoorn, 1980; Van Bree & Smeenk 1982: 28

case 180: 30 March 1981

Adult, female, TL 294 cm. Found at Harlingen, Province of Friesland. The skull and one pelvic bone are in the ZMA (ZMA 21.349)

case 181: 31 March 1982

Adult, female, TL 323 cm. Island of Ameland, beachmarker 17.80. The complete skeleton is in the RMNH (RMNH 30974). A list of detailed measurements of the dolphin is in the archives of the RMNH.

Literature: Broekema 1983: 70; Smeenk 1986: 274

case 182: 10 August 1982

Adult, female, TL c. 325 cm, c. 300 kg. Found on the Brouwersdam, province of Zuid Holland. The complete skeleton is kept in the RMNH (RMNH 31148).

Literature: Broekema 1983: 70; Smeenk 1986: 274

case 183: 8 August 1983

Adult, sex unknown, TL unknown (large). Found on the beach in a fishing net ('Danish net') on the island of Terschelling near beachmarker 27. Three photographs of the dolphin are in the archives of the RMNH. The dolphin was buried on the beach.

Literature: Smeenk 1986: 279

case 184: 29 April 1991

Adult, female, TL c. 300 cm. Found decomposed, drifting in the Oosterschelde, Wemeldinge, province of Zeeland. The skull is in the RMNH (RMNH 38328). Most likely this is the resident bottlenose dolphin which inhabited in the coastal waters of Zeeland in

1990. NTUJ 24/22, NTLJ 24/23 AgeGLG: 8.

Literature: Addink & Smeenk 1990: 23-25; Anonymus 1991; Hart 1990: 74; Hart 1991: 55-56; Addink 1991: 32

CATCHES

case 1: 18 June 1754

Adult, female (pregnant), TL '10 ft'. Caught five miles from the Scheveninger coast. Only known from an anonymous engraving. Van Bemmelen (1866) had seen the engraving: *'Een wijffe met een jong, op 18 Junij 1754 door Scheveningsche visschers in de Noordzee niet ver van daar gevangen, kan volgens de afbeelding, naar het mij toe - schijnt, slechts tot deze soort gebragt worden'*. Van Deinse (1931: 3) quoted Van Bemmelen, but had not seen the engraving himself. Recently, the engraving has been rediscovered by Klaus Barthelmess (in press).

Literature: Bodel 1836: 167; Van Bemmelen 1866: 248; Van Deinse 1931: 3

case 2: 15 October 1912

Sub-adult, male, TL 260 cm, TW 200 kg. Caught at Durgerdam, province of Noord Holland. The dead animal was transported to Natura Artis Magistra at Amsterdam, where it was subsequently dissected. The skeleton was added to the collection of Natura Artis Magistra, currently only the skull without mandibles and teeth is in the ZMA (ZMA 11.131). Two photographs by the press agency 'Vaz Dias' in the archives of the RMNH.

Literature: 'De Prins' November 16, 1912; Van Oort 1918: 57; Weber 1922: 446; Van Deinse 1923: 231; Van Deinse 1931: 259, 263; Pieters 1982: 5

case 3: 16 June 1913

Adult, male, TL 335 cm, TW 300 kg. Caught near Muiderberg. The skull was obtained for the collection of Natura Artis Magistra, Amsterdam, but it is neither there or nor the ZMA, so it must be considered lost.

Literature: 'De Prins' June 6, 1914 (photograph); Van Oort 1918: 57; Van Deinse 1923: 231; Weber 1922; Van Deinse 1931: 259

case 4 and 5: 25 and 26 February 1941

1. Adult, male, TL 310 cm, TW 220 kg. 2. Adult, male, length 320 cm. Both caught in the Biesbosch, Dordrecht, province of Zuid Holland. A third dolphin escaped. Both animals were butchered in the fishcannery 'Hollandia' at Gorichem. The boiled and salted flesh was sold in cans containing 225 gr. One can label is in the archives of the RMNH. Both mounted skeletons are in the RMNH (RMNH 4339 and 4340). A drawing of the worn teeth of RMNH 4339 (Fig. 2b) and of RMNH 4340 is in the archives of the RMNH. In the archives of the RMNH, 17 newspaper articles concerning the hunt and the catch of these two *Tursiops* and correspondence between the RMNH and the fishcannery 'Hollandia' is kept. One photograph showing the two dead dolphins in the fishcannery is in the archives of the RMNH (Fig. 18). RMNH 4339: CBL 542 mm, RL 297

mm, GPOB 301 mm, NTUJ 22/23, NTLJ 23/23. RMNH 4340: CBL 529 mm, RL 292 mm, GPOB 295 mm, NTUJ 25/25, NTLJ 26/25. AgeGLG 4339: 16+ (clear GLG's, top of tooth missing); 4340: 12+ (top of tooth missing).

Literature: Boschma 1943: 5, 14; Van Deinse 1946: 180-181,188; Broekema 1983: 69

case 6: 06 June 1976

Adult, female, TL c. 300 cm. Caught in the estuary of the Grevelingen, Schouwen, province of Zeeland by the staff of 'Dolfirama'. The dolphin died during transport. Autopsy took place at the University of Utrecht. Skull of the animal is at the Veterinary Faculty of the University of Utrecht (D76/485). The age of this dolphin was 18-20 years according to its dental layers. A photograph of the stranded dolphin was published in the Provinciale Zeeuwse Courant of 8 June 1976.

Literature: Anonymus 1976; Van Bree & Smeenk 1978: 14

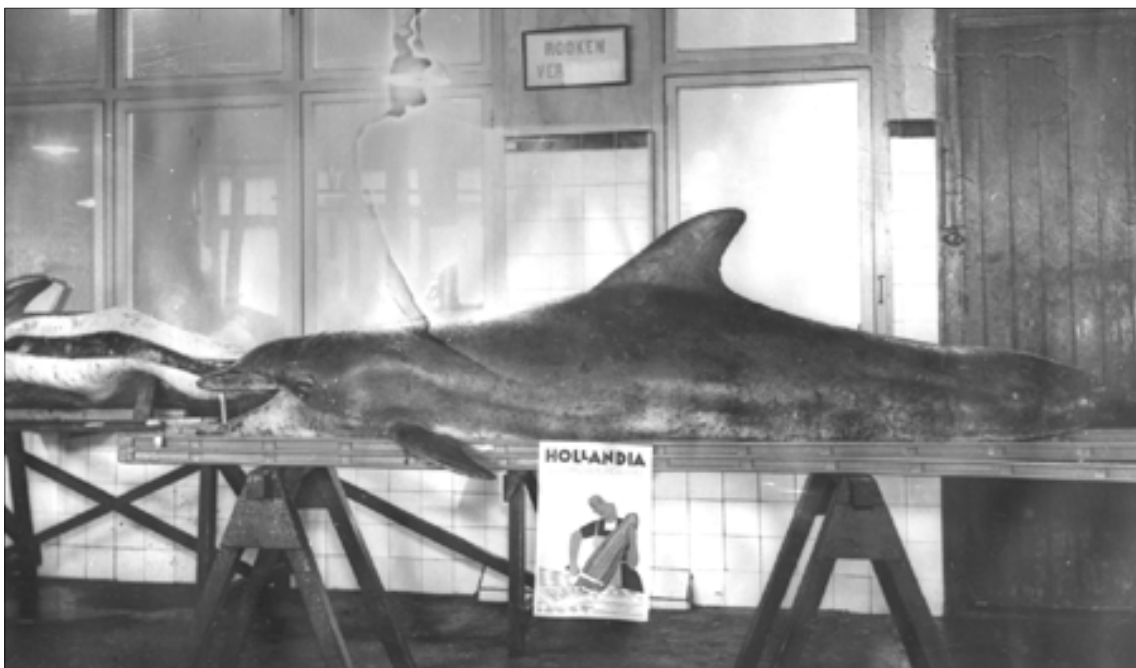


Figure 18 *Tursiops truncatus*, two adult males. Catch case 4 & 5, caught 25 February 1941 in the Biesbosch, Dordrecht. Photograph taken at the fishcannery 'Hollandia' at Gorkum. [photo archives RMNH]

LIVE STRANDINGS

case I: 27 September 1967

Adult, sex unknown, TL unknown. Domburg, province of Zeeland. Photographed by H. Ende (Borkum) in the breakers of the surf. Seven different photographs in the archives of the ZMA.

INCORRECT IDENTIFICATIONS FROM THE PUBLISHED STRANDING LISTS AND THE ARCHIVES OF THE RMNH

In the period between 1920 and 1965 a stranded odontocete found on the Dutch coast most probably concerned one of the following species: (1) harbour porpoise *Phocoena phocoena*; (2) bottlenose dolphin *Tursiops truncatus*; (3) common dolphin *Delphinus delphis* or (4) white-beaked dolphin *Lagenorhynchus albirostris*. Especially the first three species were most commonly found between 1930 and 1955, the white-beaked dolphin being more common after 1960. Many stranded odontocetes were reported to dr A.B. van Deinse as 'dolphin', or 'tuintelaar' (Dutch for bottlenose dolphin) or 'bruinvis' (Dutch for harbour porpoise), without certainty about the exact identification. After the death of dr A.B. van Deinse in 1965 his archives and a part of his collection was donated to the RMNH. In the Van Deinse archives and collection dr P.J.H. van Bree (ZMA) and dr A.M. Husson (RMNH) found several incorrect identifications, mostly white-beaked dolphins which were identified by Van Deinse as bottlenose dolphins. Van Bree (1977: 104) estimated that no less than 15% of *Tursiops* concerns *Lagenorhynchus albirostris*.

The fact that stranded white-beaked dolphins were identified as bottlenose dolphins is understandable: *Tursiops* was common and *Lagenorhynchus albirostris* was presumed to be rare. Evidence of these incorrect identifi-

cations was demonstrated by the stranding of the white-beaked dolphin on 6 October 1929 on the island of Texel, province of Noord Holland by the experienced naturalist J.P. Strijbos. He identified the dolphin as *Tursiops* and collected one mandible and some ribs (Strijbos 1929). Later, he made some photographs of the vertebral column, still convinced that he was dealing with a *Tursiops*. Based on the the count of the vertebrae dr E.D. van Oort (RMNH) identified the dolphin as *Lagenorhynchus* ('Megaleep, De Zwerver' 1930; Strijbos 1930a). The incomplete skeleton is in the RMNH. Another dolphin was found on 13 August 1941 at Wieringen and reported to the RMNH as *Tursiops*. The curator of the RMNH had no interest in just another *Tursiops*, but when, at second sight, the dolphin was identified as *Lagenorhynchus*, the skeleton was subsequently collected (RMNH 4523). Another dolphin, stranded on 29 November 1960 at Haamstede, documented by one photograph and the complete skeleton in the RMNH (RMNH 16882), identified by dr A.B. van Deinse as a male *Tursiops* with an estimated TL of 300 cm (real TL was 259 cm), was based on the abnormal skull measurements taken by Wesseling (1968), correctly identified as *Lagenorhynchus albirostris* in 1968. The photograph of the dolphin, taken in 1960 on the beach, shows all the characteristics of this species. This case proves that even an experienced cetologist as dr A.B. van Deinse could easily confuse the two species. Among the dolphins added to Appendix 2 in this article, there may be some white-beaked dolphins. Van Bree (1970) proved from a old case that even with the help of very clear photographs wrong identifications are easily made, even by experienced biologists.

Some incorrectly identified cases were discovered during this present study:

An adult dolphin with a TL of 255 cm, stranded alive on March 30/31, 1893 at Scheveningen,

province of Zuid Holland, was identified by dr Max Weber as *Tursiops tursio*. This case is documented by one drawing with body measurements by mr A. Brünings in the archives of the RMNH. The drawing and the measurements more likely represent a white beaked dolphin *Lagenorhynchus albirostris* than a bottlenose dolphin.

A dead dolphin was found on the beach between Katwijk aan Zee and Scheveningen, on 1 September 1921. The length, as stated by the finder, was about 250 cm. In the Dutch strandings archives this case was listed as *Tursiops truncatus*. Although the case was documented by a photograph which clearly shows a dead harbour porpoise *Phocoena phocoena*, the dolphin was identified by dr A.B. van Deinse as *Tursiops truncatus*, based on the length of the animal. This length was not correctly taken, causing the wrong identification.

A female dolphin with a TL of 215 cm was found on the beach at Katwijk aan Zee on 25 June 1932. A drawing made by J. Kreukniet is in the archives of the RMNH, the pelvic bones are in the collection of the RMNH. Both the drawing as the pelvic bones represent a common dolphin *Delphinus delphis*. The dolphin was identified by dr A.B. van Deinse as *Tursiops truncatus* (Van Deinse 1933:17; Van Deinse 1946; 174-175; Schultz 1970: 187).

A dolphin was found at Uithuizerwad on 25 June 1962. The estimated length, as reported by the finder 220 cm, the sex unknown. Dr A.B. van Deinse identified this dolphin as *Tursiops truncatus*. The photograph which documents this case, clearly shows a harbour porpoise. Apparently the length was not correctly taken, the identification therefore wrong.

A dolphin with a estimated TL of 300 cm found at Scheveningen on 17 July 1963 must

be identified as *Lagenorhynchus albirostris*, based on other measurements taken.

A severely decomposed headless carcass of a cetacean with a TL of 210 cm was found at Petten, province of Noord Holland on 2 July 1990 (Smeenk 1995). The finder, A. Gronert, photographed the carcass (archives RMNH) and collected two caudal vertebral epiphysis (private collection A. Gronert), which were at that time identified as belonging to *Tursiops truncatus*. At second sight, the epiphysis proved to be of a juvenile pilot whale *Globicephala melas*.

STRANDINGS ON THE COASTS OF OTHER NORTH SEA COUNTRIES

Strandings on the beaches of other North Sea countries show the same increase and decrease in the stranding records as the Dutch stranding lists.

Belgium

From the coast of Belgium 14 strandings are known: 1803; 1874; 1934; 1935; 1937; 1960; 1963 (2x); 1966; 1971; 1977; 1978; 1979; [1990]; (De Smet 1974, 1981; Van Gompel, 1991, 1996).

Denmark

From the Danish North Sea coast 8 records are known, of which 6 between 1933 and 1945: <1847; 1933; 1934; 1937; 1938; 1939; 1940; 1959; (Schulz 1970; Kinze 1995).

Germany

From the German North Sea coast 12 strandings are known: 1836; 1852; 1887; 1909; 1935; 1954; 1955; 1963; 1973; 1977; (archives RMNH [20-09-1935]; Goethe 1983).

United Kingdom

From the British North Sea coast 36 strandings are known: 1829 (2x); 1891; 1896; 1901; 1918; 1920 (2x); 1924; 1926; 1928; 1932; 1933 (2x); 1939 (2x); 1940; 1941; 1942; 1944; 1945 (2x); 1947; 1948; 1949;

1957; 1959; 1964; 1965 (2x); 1966; 1968; 1970; 1992 (3x); (Harmer 1927, 1934; Fraser 1946, 1953, 1974; Schultz 1970; Sheldrick 1989; Sheldrick *et al.* 1994.

CONCLUSION

The bottlenose dolphin has now disappeared from Dutch coastal waters. Reijnders & Lankester (1990) incorrectly stated that the bottlenose dolphin, at the end of the eighties, was one of the seven commonly occurring, more or less resident, marine mammal species in the North Sea. It is now only resident in the Moray Firth in Scotland.

We should realise that a lot of bias 'pollutes' the Dutch stranding lists. Only a part of the dead *Tursiops* found on the Dutch coast were stranded alive or were freshly dead. Many of the carcasses found, may have been dead weeks before their stranding and could have been transported by sea streams. Many carcasses were found in a (severely) decomposed state, and carcasses of cetaceans remained on the beach for a longer period as is the case today. Some dolphins were reported several times by different reporters (see for example case 37 and case 44). Furthermore, the reported animals may especially have been found during months and on parts of the Dutch coast which had the largest number of visitors. Some regular informants visited some parts of the Dutch coast more regularly within a particular period of time. The number of strandings increased in the period when the young are born, resulting in a large number of reported neonates and calves. On the other hand, a relatively large amount of stranded neonates must have remained unreported, as they were incorrectly identified as harbour porpoises. During the Second World War access to most parts of the North Sea coast of the Netherlands was forbidden, so the search for stranded cetaceans became almost impossible. Hypothetically, large numbers of strandings could have been missed during these years. These factors make a reliable analysis of the stranding data almost impossible.

What can be concluded safely, is that in the coastal waters of the Netherlands the bottlenose dolphin was a common species between 1920 and 1970, which by the end of the 20th century has disappeared completely. This study shows that a total of 184 cases of the finding of a carcass, six catches and one live stranding of this species on the Dutch coast in the period between 1754 and 2000 are well documented and indeed refer to *Tursiops truncatus*. It is, however, beyond the scope of this review to speculate on what caused the decline and subsequent disappearance of the bottlenose dolphin (and other cetacean species) from the Dutch coastal waters.

ACKNOWLEDGEMENTS

I would like to thank the following persons: dr Chris Smeenk for allowing access to the archives and collections of the National Museum of Natural History, Leiden; dr Peter J.H. van Bree for access to the collections and archives of the Zoological Museum Amsterdam; Mrs. Marjan J. Addink for providing the ages of several Dutch bottlenose dolphins; M.G.M. Blokhuis (Natuurmuseum Enschede) for information on case 25; Johannes Fokkema (Fries Natuurmuseum) for information on case 104; Dick Broers (Stedelijk Museum Vlissingen) for information on case 145, Bauke Hoekstra (Almelo) for the information on case 118 and François J.A. Slieker (Natuurmuseum Rotterdam) for critically reading the manuscript.

REFERENCES

- Addink, M., 1991 - Tuimelaar van Brouwersdam dood - Zoogdier 2(3): 32
- Addink, M. & C. Smeenk, 1990 - De tuimelaar van de Brouwersdam - Zoogdier 1(4): 23-25
- Addink, M. & C. Smeenk, 1999 - The harbour porpoise *Phocoena phocoena* in Dutch coastal waters: analysis of stranding records for the period 1920-1994 - Lutra 41: 55-80
- Anonymus, 1936 - Ameland door de Westerstormen geteisterd - Leidsch Dagblad 21 oktober 1936
- Anonymus, 1951a - Reus tussen lilliputters - De Waarheid, 17 april 1951

- Anonymus, 1951b - Tuimelaar van 300 kilo - Het Parool, 17 april 1951
- Anonymus, 1957a - Aan land getuimeld - De Volkskrant 12 oktober 1957: 1
- Anonymus, 1957b - Het was een tuimelaar - Harlinger Courant 11 oktober 1957
- Anonymus, 1966a - Witte walvis of dolfijn op Ameland aangespoeld - Leeuwarder Courant 31 mei 1966:1
- Anonymus, 1966b - Aangespoeld op Ameland: bestrooid met melkpoeder - Leeuwarder Courant 1 juni 1966: 1
- Anonymus, 1966c - Ameland uit de droom. Aangespoelde zeedieren: tuimelaar en dolfijn - Leeuwarder Courant, 2 juni 1966: 21
- Anonymus, 1976 - Verdwaalde dolfijn in de Westerschelde gevonden - Provinciale Zeeuwse Courant 8 juni 1976
- Anonymus, 1978a - Dolfijn gaat naar museum - De Stem 25 augustus 1978
- Anonymus, 1978b - Dode dolfijn op strand tussen Groede en Breskens 'geslacht' - Provinciale Zeeuwsche Courant 26 augustus 1978
- Anonymus, 1991 - Dode dolfijn in Oosterschelde - Provinciale Zeeuwsche Courant 30 april 1991
- Bemmelen, A.A. van, 1866 - Lijst van zoogdieren, tot heden in den wilden staat in Nederland waargenomen. In: J.A. Herklots, Bouwstoffen voor eene fauna van Nederland. Derde deel - E.J. Brill, Leiden: 228-254
- Bennet, J.A. & G. van Olivier, 1822 - Verhandeling ter verantwoording der vrage: Eene naauwkeurige Naamlijst der Zoogende dieren, der Vogelen, en der Amphibien, die natuurlijke (en niet van elders over gebragte) inwooners dezer landen zijn, met bijvoeging van derzelver verschillende namen in verschillende Nederlandsche gewesten, en de geslachts en soorts kenmerken volgens het Linneaanse stelsel zeer kort gesteld en met aanwijzing van een of meer der beste afbeeldingen van elk dier - Natuurkundige verhandelingen van de Hollandsche maatschappij der wetenschappen te Haarlem. XI deel, A. Loosjes, Haarlem
- Boschma, H., 1938 - Verslag omtrent het Rijksmuseum van Natuurlijke Historie te Leiden loopende over het tijdvak 1 september 1930 tot 31 december 1935 - E.J. Brill, Leiden
- Boschma, H., 1938b - Verslag omtrent het Rijksmuseum van Natuurlijke Historie te Leiden over de jaren 1936 en 1937 - E.J. Brill, Leiden
- Boschma, H., 1943 - Verslag omtrent het Rijksmuseum van Natuurlijke Historie te Leiden over de jaren 1941 en 1942 - E.J. Brill, Leiden
- Boschma, H., 1950 - Verslag omtrent het Rijksmuseum van Natuurlijke Historie te Leiden over het jaar 1946 - E.J. Brill, Leiden
- Boschma, H., 1950b - Verslag omtrent het Rijksmuseum van Natuurlijke Historie te Leiden over het jaar 1948 - E.J. Brill, Leiden
- Bree, P.J.H. van, 1970 - Über Weißschauzdelphine (*Lagenorhynchus albirostris*) von den deutschen Nordseeküsten - Natur und Museum 100(6): 264-268
- Bree, P.J.H. van, 1977 - On former and recent strandings of cetaceans on the coast of the Netherlands - Zeitschrift für Säugetierkunde 42: 101-107
- Bree, P.H.J. van & R. Duguy, 1970 - Sur quelques aberrations pathologiques chez les petits Cétacés - Der Zoologische Garten 39: 11-15
- Bree, P.J.H. van & A.M. Husson, 1974 - Strandings van cetacea op de Nederlandse kust in 1972 en 1973 - Lutra 16: 1-10
- Bree, P.J.H. van & C. Smeenk, 1978 - Strandings van cetacea op de Nederlandse kust in 1976 en 1977 - Lutra 20: 13-18
- Bree, P.J.H. van & C. Smeenk, 1982 - Strandings van cetacea op de Nederlandse kust in 1978, 1979 en 1980 - Lutra 25: 19-29
- Broekema, J.W., 1983 - Catalogue of cetacea in the collection of the Rijksmuseum van Natuurlijke Historie, Leiden - Zoölogische Mededelingen 57: 67-79
- De Smet, W.M.A., 1974 - Inventaris van de walvisachtigen (Cetacea) van de Vlaamse kust en de Schelde - Bulletin Koninklijk Belgisch Instituut voor Natuurwetenschappen 50: 1-156
- De Smet, W.M.A., 1977 - The fate of old bottle-nosed dolphins, *Tursiops truncatus*, in nature as revealed by the condition of their skeletons - Aquatic Mammals 5(3): 78-86
- De Smet, W.M.A., 1981 - Gegevens over de walvisachtigen (Cetacea) van de Vlaamse kust en de Schelde uit de periode 1969-1975 - Bulletin Koninklijk Instituut voor Natuurwetenschappen 53: 1-34
- Deinse, A.B. van, 1923 - De Nederlandsche tuimelaars - De Levende Natuur, 1 december 1923: 225-233
- Deinse, A.B. van, 1931 - De fossiele en recente cetacea van Nederland - H.J. Paris, Amsterdam
- Deinse, A.B. van, 1933 - Aanspoelingen van cetacea in

- Nederland in de jaren 1931 en 1932 - Natuur-historisch Museum te Rotterdam, No. 2
- Deinse, A.B. van, 1939 - De dwergvinvisch van Ameland - De Nieuwe Rotterdamsche Courant, 25 oktober 1939
- Deinse, A.B. Van, 1939b - Recente oorlogsslachtoffers onder de walvisachtige dieren - De Nieuwe Rotterdamsche Courant, 24 november 1939
- Deinse, A.B. van, 1944 - De Nederlandse cetacea van 1943 - Het Zeepaard 4: 21-23
- Deinse, A.B. van, 1946 - De recente cetacea van Nederland van 1931 tot en met 1944 - Zoölogische Mededelingen 26: 139-210
- Deinse, A.B. van, 1948 - De Nederlandse cetacea van 1946 - Het Zeepaard 8: 6-9
- Deinse, A.B. van, 1949 - De Nederlandse cetacea van 1948 - Het Zeepaard 9: 32-35
- Deinse, A.B. van, 1951 - Het walvissennieuws van 1949 - Het Zeepaard 11: 23-30
- Deinse, A.B. van, 1952 - De walvisachtige dieren in Nederland waargenomen in 1951, alsmede bijzonderheden omtrent onze oude en moderne walvisvaart - Het Zeepaard 12: 19-29
- Deinse, A.B. van, 1954 - De Nederlandse cetacea van 1953 - Mededelingenblad van de vereniging voor zoogdierkunde en zoogdierbescherming nr 6: 48-50
- Deinse, A.B. van, 1957 - Walvisnieuws 1956 - Mededelingenblad van de vereniging voor zoogdierkunde en zoogdierbescherming nr 15: 153-158
- Deinse, A.B. van, 1958 - Walvisnieuws over 1957 - Lutra, mededelingenblad van de vereniging voor zoogdierkunde en zoogdierbescherming nr 18: 183-190
- Deinse, A.B. van, 1959 - Walvisnieuws 1958 - Lutra, mededelingenblad van de vereniging voor zoogdierkunde en zoogdierbescherming nr 20: 205-208
- Deinse, A.B. van, 1960 - Walvisnieuws over 1959 - Lutra 2: 42-47
- Deinse, A.B. van, 1962. Walvisnieuws over 1961. Lutra 4: 33-40
- Dusseau, J.L., 1865 - Musée Vrolik. Catalogue de la collection d'anatomie humaine, comparée et pathologique de M.M. Ger. et W. Vrolik - De Roever Kröber, Amsterdam
- Flower, W.H., 1880 - On the external characters of two species of British dolphins (*Delphinus delphis*, Linn., and *Delphinus tursio*, Fabr.) - Transactions of the Zoological Society 11(1):1-5
- Fraser, F.C., 1946 - Report on Cetacea stranded on the British coasts from 1933 to 1937 - The British Museum, London
- Fraser, F.C., 1953 - Report on Cetacea stranded on the British coasts from 1938 to 1947 - The British Museum, London
- Fraser, F.C., 1974 - Report on Cetacea stranded on the British coasts from 1948 to 1966 - The British Museum, London
- Goethe, F., 1983 - Wale und Delphine in Niedersächsischen Küstengewässern und Flüssen - Drosera '83(2): 49-68
- Harmer, S.F., 1923 - Report on Cetacea stranded on the British coasts during 1921 and 1922 - The British Museum, London
- Harmer, S.F., 1925 - Report on Cetacea stranded on the British coasts during 1923 and 1924 - The British Museum, London
- Harmer, S.F., 1927 - Report on Cetacea stranded on the British coasts from 1913 to 1926 - The British Museum, London
- Harmer, S.F., 1934 - Report on Cetacea stranded on the British coasts from 1927 to 1932 - The British Museum, London
- Hart, S., 1990 - Een tuimelaar *Tursiops truncatus* bij de Brouwersdam - Sula 4(2): 74
- Hart, S., 1991 - Zeeuwse tuimelaar *Tursiops truncatus* dood aangetroffen in Oosterschelde - Sula 5(2): 55-56
- Hersch, S.L., D.K. Odell & E.D. Asper, 1990 - Bottlenose dolphin mortality patterns in the Indian/Banana Rover system of Florida - In: S. Leatherwood & R.R. Reeves (Eds.), The Bottlenose dolphin. Academic press, San Diego: 155-164
- Hoeven, J. van der, 1856 - Over walvisachtige dieren in 't algemeen en dolfijnen in het bijzonder - Album der Natuur, 12: 371-392
- Hoorn, D.A.C. van den, 1980 - Dolfijn aangespoeld - De Telegraaf, 23 december 1980
- Hummelinck, P., 1924 - De tuimelaar - De Levende Natuur, 29(5): 1 september 1924
- Husson, A.M. & P.J.H. van Bree, 1976 - Strandingen van cetacea op de Nederlandse kust in 1974 en 1975 - Lutra 18: 25-32
- International Clearinghouse for Birth Defects Monitoring Systems, 1991 - Conenital malformations worldwide - Elsevier, Amsterdam, New York & Oxford
- Jentink, F.A., 1887 - Muséum D'Histoire Naturelle des Pays-Bas. Tome IX. Catalogue Ostéologique des

- Mammifères - E.J. Brill, Leiden
- Jentink, F.A., 1902 - Verslag omtrent het Rijks Museum van Natuurlijke Historie te Leiden, loopende over het tijdvak van 1 september 1901 tot 1 september 1902 - E.J. Brill, Leiden
- Jong, A. de, 1952 - (Zonder titel [Without title]) - Ons Anker 7; december 1952
- Kaas, P., 1940 - Ook walvisachtigen gevonden - Voorwaarts 5 februari 1940: 3
- Kamiya, T., N. Miyazaki & S. Shiraga, 1981 - First case of dicephaly in Odontoceti - Scientific reports of the Whales Research Institute 33: 127-129
- Kawamura, A., 1990 - A malformed fetus of a southern sei whale - Scientific reports of the Whales Research Institute: 93-95
- Kawamura, A. & K. Kashita, 1971 - A rare double monster of dolphin *Stenella caeruleoalba* - Scientific reports of the Whales Research Institute 23: 139-140
- Kinze, C.C., 1995 - Danish whale records 1575-1991 (Mammalia, Cetacea). Review of whale specimens stranded, directly or incidentally caught along the Danish coasts - Steenstrupia 21: 155-196
- Kompanje, E.J.O., 1998 - Abnormal tailflukes in harbour porpoises *Phocoena phocoena* from the Netherlands (Mammalia: Cetacea, Odontoceti) - Deinsea 4: 59-76
- Kompanje, E.J.O., in prep - Severely diseased skeletons of two juvenile bottlenose dolphins *Tursiops truncatus* found on the Dutch coast in the summer of 1934 -
- Koumans, F.P., 1925 - Een mooie vondst - De Levende Natuur, 1 januari 1925: 282-284
- "Megaleep, De Zwerver", 1930 - Op expeditie. Mooie ochtend. Aan de Eendracht. Het dolfijneskelet - NRC Handelsblad, 24 april 1930
- Nederlandsch Natuur- en Geneeskundig congres, 1920 - Handelingen van het XVIIde Nederlandsch natuur- en geneeskundig congres, gehouden te Leiden op 24, 25 en 26 april 1919 - Kleynenberg & Co, Haarlem: 229
- Niesen, F., 1937 - Een tuimelaar-expeditie - De Wandelaar, april 1937: 114-116
- Ohsumi, S., 1959 - A deformed fin whale fetus - Scientific reports of the Whales Research Institute 14: 145-147
- Oort, E.D. van, 1917 - Verslag omtrent 's Rijks Museum van Natuurlijke Historie te Leiden, loopende over het tijdvak van 1 september 1916 tot 1 september 1917 - E.J. Brill, Leiden
- Oort, E.D. van, 1918 - Over een te Noordwijk aan zee aangespoelden *Lagenorhynchus albirostris*, benevens een lijst van de cetaceen-soorten, die tot heden aan de Nederlandse kust zijn waargenomen - Zoologische Mededeelingen IV(1): 54-62
- Oort, E.D. van, 1920 - Verslag omtrent 's Rijks Museum van Natuurlijke Historie te Leiden, loopende over het tijdvak van 1 september 1919 tot 1 september 1920 - E.J. Brill, Leiden
- Oort, E.D. van, 1923 - Verslag omtrent aanwinsten en verliezen van 's Rijks Museum van Natuurlijke Historie te Leiden loopende over het tijdvak van 1 september 1922 tot 1 september 1923 - E.J. Brill, Leiden
- Oort, E.D. van, 1926 - Verslag omtrent 's Rijks Museum van Natuurlijke Historie te Leiden loopende over het tijdvak van 1 september 1925 tot 1 september 1926 - E.J. Brill, Leiden
- Oort, E.D. van, 1927 - Verslag omtrent 's Rijks Museum van Natuurlijke Historie te Leiden loopende over het tijdvak van 1 september 1926 tot 1 september 1927 - E.J. Brill, Leiden
- Oort, E.D. van, 1928 - Verslag omtrent 's Rijks Museum van Natuurlijke Museum te Leiden loopende over het tijdvak van 1 september 1927 tot 1 september 1928 - E.J. Brill, Leiden
- Oort, E.D. van, 1929 - Verslag omtrent 's Rijks Museum van Natuurlijke Historie te Leiden loopende over het tijdvak 1 september 1928 tot 1 september 1929 - E.J. Brill, Leiden
- Oort, E.D. van, 1930 - Verslag omtrent 's Rijks Museum van Natuurlijke Historie te Leiden loopende over het tijdvak van 1 september 1929 tot 1 september 1930 - E.J. Brill, Leiden
- Pieters, T., 1982 - "Geïllustreerd Zondagsblad". Leidsche Courant, 23 oktober 1982:5
- Reijnders, P.J.H. & K. Lankester, 1990 - Status of marine mammals in the North Sea - Netherlands Journal of Sea Research 26(2-4): 427-435
- Schlegel, H., 1841 - Beiträge zur Charakteristik der Cetaceen - Abhandlungen aus dem Gebiete der Zoologie und vergleichende Anatomie. Heft I, A. Arnz & Comp., Leiden
- Schlegel, H., 1870 - Natuurlijke historie van Nederland. De zoogdieren - G.L. Funke, Amsterdam
- Schultz, W., 1970 - Über das Vorkommen von Walen in der Nord- und Ostsee (Ordin. Cetacea) - Zoologische Anzeiger 185: 172-264
- Sheldrick, M.C., 1989 - Stranded whale records for the entire British coastline, 1967-1986 - Investigations on

- Cetacea 22: 298-329
- Sheldrick, M.C., P.J. Chimonides, A.I. Muir, *et al.*, 1994 - Stranded cetacean records for England, Scotland and Wales, 1987-1992 - *Investigations on Cetacea* 25: 259-283
- Slijper, E.J., 1936 - Die Cetaceen ~~ver~~gleichend-anatomisch und systematisch - Martinus Nijhoff, 's-Gravenhage
- Slijper, E.J., 1938 - Vergleichend mikroskopisch-anatomische untersuchungen über das *Corpus cavernosum* penis der Cetaceen - *Archives Néerlandaises de Zoologie*, 3 (supplément): 205-218
- Smeenk, C., 1986 - Strandingen van cetacea op de Nederlandse kust in 1981, 1982 en 1983 - *Lutra* 29: 268-281
- Smeenk, C., 1995 - Strandingen van cetacea op de Nederlandse kust in 1990, 1991 en 1992 - *Lutra* 38: 90-104
- Strijbos, J.P., 1926 - Na de storm - *De Telegraaf* 3 januari 1926
- Strijbos, J.P., 1929 - Op expeditie naar Texel. Er is een zeereus aangespoeld! Een tuimelaar als troost - *De Telegraaf* 27 oktober 1929: 12
- Strijbos, J.P., 1930 - Merkwaardige vondsten op onze kust - *De Telegraaf* 16 februari 1930
- Strijbos, J.P., 1930a - Het skelet op de Sluftervlakte. Geen tuimelaar, maar witsnuitdolfijn - *De Telegraaf* 27 april 1930
- Strijbos, J.P., 1931 - Tuimelaar op het strand - *De Telegraaf*, 15 september 1931
- Strijbos, J.P., 1933 - Strandvondsten - *De Levende Natuur*, 37: 47-51
- Strijbos, J.P., 1933b - Driehonderd kilogram ongekeurd vleesch - *Oprechte Haarlemse Courant*, 28 september 1933
- Texelse Courant, 1950 - Tuimelaar was nog klokgaaf - *Texelse Courant* 8 maart 1950
- Utrecht, W.L. van, 1969 - A remarkable feature in the dentine of teeth of Odontocetes - *Beaufortia* 16: 157-162
- Weber, M., 1922 - Cetaceen - In: H.C. Redeke (red.), *Flora en Fauna der Zuiderzee*. C. de Boer, Helder: 443-451
- Van Gompel, J., 1991 - Cetacea aan de Belgische kust, 1975-1989 - *Lutra* 34: 27-35
- Van Gompel, J., 1996 - Cetacea aan de Belgische kust, 1990-1994 - *Lutra* 39: 45-51
- Vervoort, W., 1976 - Verslag van de directeur over het jaar 1975. Rijksmuseum van Natuurlijke Historie te Leiden - Staatsuitgeverij, 's-Gravenhage
- Vervoort, W., 1979 - Verslag van de directeur over het jaar 1977. Rijksmuseum van Natuurlijke Historie te Leiden - Staatsuitgeverij, 's-Gravenhage
- Vervoort, W., 1980 - Verslag van de directeur over het jaar 1978. Rijksmuseum van Natuurlijke Historie te Leiden - Staatsuitgeverij, 's-Gravenhage
- Verwey, J., 1975 - The cetaceans *Phocoena phocoena* and *Tursiops truncatus* in the Marsdiep area (Dutch waddensea) in the years 1931-1973 - *Nederlands Instituut voor Onderzoek der zee*. Publikaties en verslagen, nummer 1975- 17a & 17b
- Wesseling, M., 1968 - Over de schedel van *Tursiops truncatus* (Montagu, 1821) - Masters thesis, University of Leiden
- IJsseling, M.A. & A. Scheygrond, 1943 - De zoogdieren van Nederland - W.J. Thieme, Zutphen
- Zinchenko, V.L. & M.V. Ivashin, 1987 - Siamese twins of minke whales of the southern hemisphere - *Scientific reports of the Whales Research Institute* 38: 165-169

Received 12 February 2000

Accepted 14 April 2000

APPENDIX I

CHRONOLOGICAL LIST OF WELL DOCUMENTED STRANDINGS OF *TURSIOPS TRUNCATUS* IN THE NETHERLANDS

case number and date of stranding	locality	evidence of correct identification
1 01-02-1818	Oostwolder-hamrik	skeleton (RMNH 31182)
2 before 1841	'Hollandse kust'	skeleton (RMNH 31185)
3 before 1865	'Hollandse kust'	skeleton (ZMA 8808)
4 08-1878 or 1879	Zuiderzeedijk	skeleton (ZMA 8161)
5 20-07-1887	De Cocksdorp Texel	skeleton (ZMA 9238)
6 27-09-1889	Wieringen	skeleton (ZMA 8633)
7 27-11-1901	Het Nieuwe Diep	skeleton, stuffed skin (RMNH 31192), fetus in spirit (RMNH 859)
8 09-1910	Vierhuizen, Lauwerszee	drawing of the mandibula (RMNH)
9 20-07-1917	Wijk aan Zee	3 photo's (RMNH)
10 08-1917	Noordwijk	one eye in spirit (NMR 999000393)
11 before 1918	Wijk aan Zee	skeleton (RMNH 31183)
12 before 1918	'Hollandse kust'	skeleton (RMNH 31184)
13 04-1918	Hoek van Holland Zuid	skull with right mandible (RMNH no number)
14 18-08-1919	Ballum, Ameland	pelvic bones (RMNH), skull (NMR 999000171), drawing (RMNH)
15 23-08-1919	Noordwijk aan Zee	drawing (RMNH)
16 30-08-1919	Noordwijk aan Zee	skeleton (RMNH 933), blowhole in spirit (NMR 999000394), photo's and drawings (RMNH)
17 13-02-1921	Zandvoort	5 teeth (RMNH, no number)
18 31-07-1921	Terschelling	photo of skull and scapula (RMNH), right mandible (NMR 999000173)
19 07-1922	Kijkduin, Loosduinen	skull (ZMA 23.027), cervical vertebrae (NMR 999000182), 2 pieces of skin in spirit (NMR 999000185), drawings (RMNH)
20 28-07-1922	Kijkduin, Loosduinen	photo (RMNH)
21 10-1922	Bloemendaal	mandible (ZMA 11.048)
22 17-05-1923	Strijensas, Moerdijk	photo's and drawings (archivess RMNH and EJO)
23 29-08-1923	Terheide	drawing of the carpus (RMNH)
24 07-08-1924	Scheveningen	skull and hyoid (RMNH 1667), drawings, X-rays pectoral fins, photo's (RMNH)
25 14-08-1925	Wijk aan Zee	skull NM Enschede (NME 400000439)
26 29-11-1925	IJmuiden	skull (RMNH 1466), pectoral fins (NMR 999000389), 3 photo's (RMNH), radiographs (RMNH)
27 12-1925	Hoek van Holland-Zuid	Humerus, radius, ulna, hyoid (NMR 999000390), drawing fin skeleton (RMNH) all cervical vertebrae, one thoracic vertebrae (NMR 999000390)
28 08-1926	IJmuiden	1 tooth (RMNH)
29 1927	Wissekerke	skeleton (NMR 999000184), radiographs (RMNH)

30 16-01-1927	Zandvoort	skeleton (RMNH 1558), 3 photo's (RMNH)
31 05-02-1927	Scheveningen	2 photo's of the head (RMNH)
32 28-08-1927	Wassenaarse slag	skeleton (RMNH 1609)
33 18-05-1928	De Koog, Texel	left scapula (NMR 999000180)
34 01-07-1928	De Koog, Texel	17 teeth (RMNH), photo's (RMNH)
35 08-07-1928	Wassenaarse slag	2 photo's (RMNH)
36 25-06-1929	Hoek van Holland-Z	skeleton (RMNH 31193), 5 photo's (RMNH)
37 28-06-1929	Zandvoort	skeleton (RMNH 1758), photo's, newspaper article (RMNH); eyes and penis on spirit (RMNH 1758)
38 25-07-1929	Zandvoort	pelvic bones (RMNH), humerus, radius, ulna & 10 teeth (NMR 999000206), radiographs (RMNH)
39 01-08-1929	Terschelling	1 photo (RMNH)
40 winter 1929	Texel, Slufter	4 thoracic vertebrae (RMNH 1860), 2 photo's (RMNH)
41 09-1930	Vlieland	skull (RMNH 37957), cervical vertebrae (NMR 999000392)
42 05-07-1930	Hoek van Holland	photo (RMNH)
43 08-04-1931	Texel, 't Horntje	2 photo's
44 31-05-1931	Texel, de Koog	4 teeth (RMNH), 2 photo's (RMNH), mandible, one bulla, right scapula, 1 caudal vertebra (NMR 999000175)
45 07-1931	Egmond aan Zee	1 tooth (RMNH), 1 photo (RMNH)
46 07-09-1931	Zandvoort-Noordwijk	skeleton (RMNH 1998), photo's (RMNH)
47 08-09-1931	Zandvoort	report by experienced finder (J.P. Strijbos)
48 07-02-1932	Huisduinen	report by experienced observer (J. Verwey)
49 10-04-1932	Wijk aan Zee	report by experienced finder (J.P. Strijbos), mandible (?), (NMR 999000176)
50 05-06-1932	Egmond aan Zee	3 teeth (RMNH)
51 06-1932	Hoek van Holland	left humerus (NMR 999000181)
53 25-06-1932	Wassenaarse slag	both mandibles (NMR 999000174), pelvic bones (RMNH)
54 08-07-1932	Egmond aan Zee	1 photo (RMNH)
55 26-08-1932	Terschelling	skull, sternum (NMR 999000183), pelvic bones (RMNH), 2 photo's (RMNH)
56 30-08-1932	Renesse	skull, hyoid (RMNH 2113), 2 photo's (RMNH)
57 02-10-1932	Huisduinen	report by experienced observer (J. Verwey)
58 04-1933	Schokland	skull (RMNH 12597)
59 05-1933	Durgerdam	photo, newspaper article (RMNH)
60 29-07-1933	Texel	3 teeth (RMNH)
61 23-09-1933	IJmuiden-Zandvoort	2 photo's, newspaper article (RMNH)
62 21-05-1934	De Koog, Texel	1 photo (RMNH)
63 28-05-1934	Noordwijk aan Zee	skeleton (RMNH 2247)
64 30-06-1934	Zandvoort-Noordwijk	pelvic bones and 1 tooth (RMNH), rostrum and both bullae (NMR 999000208)
65 27-07-1934	De Koog, Texel	skeleton (RMNH 2263)
66 14-08-1934	Harlingen/Zurich	pelvic bones (RMNH)
67 16-05-1935	Cadzand	skull and hyoid (RMNH 2330)
68 24-05-1935	Terschelling	3 photo's (RMNH)
69 15-08-1935	Den Helder	publication by Slijper (1938)
70 01-11-1935	Wissekerke	skeleton (RMNH 2382), photo's (RMNH)
71 04-03-1936	Texel	skull in NHM Texel
72 12-04-1936	Vlieland, Vliehors	skull (RMNH 2450), photo's and drawings (RMNH)

73 '08-05-1936'	Muiderberg	bullae tempani (ZMA 23.715)
74 16-05-1936	Den Helder	report by experienced observer (J. Verwey)
75 11-07-1936	Zandvoort-IJmuiden	skull (RMNH 2484), pelvic bones (RMNH). 1 photo (RMNH)
76 15-09-1936	Zandvoort	pelvic bones (RMNH), 3 photo's (RMNH)
77 18-10-1936	Ameland, Hollum	newspaper article with photo (RMNH)
78 29-10-1936	Wijk aan Zee	1 tooth (RMNH)
79 06-1937	Wissekerke	1 tooth (RMNH)
80 28-06-1937	Den Helder	skull (ZMA 2725)
81 07-1937	Noordwijk aan Zee	skull (RMNH 3155)
82 19-09-1937	Renesse	1 tooth, pelvic bones and 3 photo's (RMNH)
83 14-11-1937	Oostvoorne	drawing of the head (RMNH)
84 03-01-1938	Kerkwerpe, Zierikzee	photo and drawing (RMNH)
85 16-01-1938	Harlingen	skull (RMNH 3313)
86 22-05-1938	Texel	5 teeth (RMNH)
87 31-05-1938	Kerkwerpe	drawings (RMNH)
88 23-07-1938	Scharendijke	2 drawings (RMNH)
89 19-08-1938	Westerschouwen	pelvic bones (RMNH), 6 teeth (NMR), 3 photo's (RMNH)
90 21-08-1938	Terschelling	6 teeth, 2 photo's (RMNH)
91 09-09-1938	Loosduinen	seen by experienced finder (dr Junge)
92 08-10-1938	Hoek van Holland	4 photo's (RMNH)
93 14-07-1939	Bergen aan Zee	1 tooth, 2 photo's (RMNH)
94 22-10-1939	Ameland, Buren	pelvic bones (RMNH), pectoral fin on spirit and 5 teeth (NMR 999000192)
95 19-11-1939	Schiermonnikoog	1 photo and 1 drawing (RMNH)
96 04-02-1940	Terheijde	2 photo's, 1 drawing (RMNH)
97 22-06-1940	Texel, Slufter	5 photo's (RMNH)
98 28-07-1940	Terschelling	1 photo (RMNH)
99 13-08-1940	Texel, Slufter	1 photo (RMNH)
100 07-08-1941	Katwijk aan Zee	skeleton (RMNH 4515), 2 photo's (RMNH)
101 13-10-1941	Noordwijk aan Zee	skeleton (RMNH 4595)
102 22-07-1943	Oostkapelle	both mandibles, rostrum, 2 teeth, 5 caudal vertebrae, 1 chevron (RMNH 5873)
103 11-09-1943	Wieringen	skull without mandibles, stylohyoid (RMNH 5868)
104 09-1946	Terschelling	skeleton (FNM 10068)
105 07-06-1947	Oostvoorne	8 teeth (RMNH)
106 07-1947	Terschelling	2 photo's (RMNH)
107 14-08-1946	Den Helder	found by experienced finder (J. Verwey)
108 15-11-1947	Noordwijk aan Zee	both mandibles (RMNH 7510)
109 26-06-1948	Schiermonnikoog	4 photo's (RMNH)
110 16-07-1948	Noordwijk aan Zee	skull and hyoid (RMNH 7651)
111 22-09-1948	Noordwijk aan Zee	skull (RMNH 7891)
112 23-09-1948	Wassenaarse slag	skeleton (RMNH 7893)
113 23-09-1948	Noordwijk aan Zee	6 thoracic vertebrae (RMNH 7894)
114 08-1949	Texel	2 teeth (RMNH)
115 10-09-1949	Zandvoort	photo (RMNH)
116 03-1950	Texel	photo in newspaper article (RMNH)
117 30-04-1950	Terschelling	5 teeth, drawing (RMNH)

118	08-1950	Scheveningen-Katwijk aan Zee	skull (collection B. Hoekstra, coll.nr 1301)
<hr/>			
119	08-01-1951	IJmuiden	lumbal vertebra (ZMA 1401)
120	04-1951	Texel	newspaper article with photo (RMNH)
121	22-09-1952	Egmond-Castricum	skeleton (ZMA 2721)
122	05-12-1952	Terschelling	both mandibles (NMR 999000177)
123	08-03-1953	Scheveningen	lumbar vertebra (NMR 999000391)
124	24-06-1953	Terschelling	6 teeth (RMNH)
125	31-08-1953	Wassenaarse slag	skeleton (RMNH 11952)
126	08-11-1953	Den Helder	detailed letter of the finder (RMNH)
127	28-02-1954	Hoek van Holland	photo (RMNH)
128	03-11-1954	Huisduinen	skull without rostrum (RMNH 12458)
129	20-06-1955	Ameland	photo (RMNH)
130	07-1955	Schiermonnikoog	2 photo (RMNH)
131	14-07-1955	Ameland, Nes	right mandible with 17 teeth (NMR 999000172) 1 photo (RMNH)
132	23-07-1955	Noordwijk aan Zee	skeleton (RMNH 12593)
133	winter 1955	Bloemendaal	skull, one mandible, 9 teeth (RMNH 38137)
134	13-02-1956	Hoek van Holland-Z	1 photo (RMNH)
135	16-07-1957	Noordwijk aan Zee	4 photo's (RMNH), complete dolphin on formalin (RMNH 16037)
136	07-10-1957	Vlieland	skeleton (RMNH 16152), 2 photo's in newspaper articles (RMNH)
137	27-10-1957	Noordwijk aan Zee	skull and hyoid (RMNH 16162)
138	1958	Ameland	skull (FNHM no coll.number)
139	06-1958	Texel	skeleton (natuurmuseum Texel)
140	06-07-1958	Schiermonnikoog	4 teeth (RMNH)
141	23-07-1958	Noordwijk-Zandvoort	skeleton (RMNH 16455), 2 photo's (RMNH)
142	16-10-1958	Den Helder	detailed letter finder (RMNH)
143	02-07-1959	Kijkduin	photo mounted skeleton (RMNH)
144	07-07-1959	Ameland	photo in newspaper article (RMNH)
145	02-1960	'Vlissingen'	4 photographs (ZMA), skeleton (SMV, no coll.number)
146	24-02-1960	Texel	detailed measurements (RMNH)
147	30-08-1960	Terschelling	skull (ZMA 2943)
148	04-1961	Callantsoog	detailed measurements (RMNH)
149	20-05-1961	Camperduin	drawing (ZMA)
150	22-07-1961	Hoek van Holland-Z	5 photo's (RMNH)
151	28-07-1961	Den Helder	detailed measurements (RMNH)
152	05-04-1962	Texel	skeleton (ZMA 4900)
153	15-08-1962	Westkapelle	1 photo (RMNH)
154	09-02-1964	Petten	2 photo's (RMNH)
155	06-07-1964	Terschelling	drawing (RMNH)
156	31-08-1964	St Maartenszee	detailed measurements (RMNH)
157	01-1965	Noordwijk	skull fragment (RMNH 18132)
158	14-07-1965	Terschelling	skeleton (ZMA 8164)
159	28-07-1965	Noordwijk aan Zee	report by experienced finder (F. Niesen)
160	06-11-1965	Den Helder	skull (ZMA 8617)
161	01-06-1966	Ameland	photo's (RMNH)

162	12-07-1966	Callantsoog	drawing (RMNH)
163	02-08-1966	Egmond aan Zee	skull (ZMA 9128)
164	18-07-1967	Westkapelle	skull and hyoid (RMNH 19799), photo in newspaper article (RMNH)
165	31-07-1967	Wassenaarse slag	skull and hyoid (RMNH 19837)
166	22-08-1967	Lauwerszee	skeleton (ZMA 10.504), photo (RMNH)
167	23-10-1967	Wassenaar	skull (RMNH 19872)
168	15-04-1968	Westkapelle	skull in Zeeuws biologisch Museum
169	02-09-1969	Vlieland	'bones' (ZMA 12.529)
170	1965-1968	'Nederlandse kust'	skull (RMNH 23868)
171	12-10-1972	Zandvoort	skeleton (ZMA 15.383)
172	11-02-1973	Scheveningen	skull (NMR 999000187)
173	07-07-1974	Schiermonnikoog	skeleton (ZMA 16.853), photo's (RMNH & ZMA)
174	08-1975	Hoek van Holland	skull (NMR 999000188)
175	08-09-1975	Haamstede	skeleton (RMNH 24797)

176	17-11-1977	Domburg	skeleton (RMNH 26121)
177	24-08-1978	Breskens	skeleton (RMNH 27044), 3 photo's (RMNH)
178	25-06-1979	Vlissingen	skull and hyoid (RMNH 28061)
179	18-12-1980	Schiermonnikoog	skeleton (ZMA 21.227), photo in newspaper article (RMNH)
180	30-03-1981	Harlingen	skull and one pelvic bone (ZMA 21.349)
181	31-03-1982	Ameland	skeleton (RMNH 30974)
182	10-08-1982	Brouwersdam	skeleton (RMNH 31148)
183	08-08-1983	Terschelling	2 photo's (RMNH)
184	29-04-1991	Oosterschelde	skull (RMNH 38328), photo's (RMNH)

CATCHES

1	18-06-1754	Scheveningen	engraving
2	15-10-1912	Durgerdam	skull without mandibles (ZMA 11.131), photo's (RMNH)
3	16-06-1913	Muiderberg	photo (RMNH)
4	25-02-1941	Biesbosch	skeleton (RMNH 4339), photo's (RMNH)
5	26-02-1941	Biesbosch	skeleton (RMNH 4340), photo's (RMNH)
6	07-06-1976	Gravelingen	skull (University Utrecht D76/485), photo (RMNH)

LIVE STRANDINGS

1	27-09-1967	Domburg	7 photo's (archives ZMA)
---	------------	---------	--------------------------

APPENDIX 2**CHRONOLOGICAL LIST OF STRANDINGS OF *TURSIOPS TRUNCATUS* IN THE NETHERLANDS WITHOUT EVIDENCE OF CORRECT IDENTIFICATION**

case number and date of stranding	locality	reason for lack of clarity in identification
1 20-04-1828	Zwarte Haan	only report in archives, species not clear
2 20-04-1828	idem	idem
3 28-06-1886	De Cocksdorp, Texel	unreliable notes in archives RMNH (length 153 cm)
4 06-12-1890	Den Helder	skull lost (length 156 cm, male, 40,5 kg)
5 03-1893	Scheveningen	only report by finder (TL 255 cm)
6 11-07-1918	Scheveningen	only report by finder (estimated length 270 cm)
7 12-12-1922	Hoek van Holland	only report by a student of Van Deinse (estimated length 250 cm)
8 07-1924	Scheveningen	only report by finder (no length given)
9 08-1925	Haamstede	only report by finder (estimated length 300 cm)
10 15-07-1926	Genemuiden	only report by finder, skull collected by finder (estimated length 320 cm)
11 08-1926	Zuiderzee	only report by finder (estimated length 250 cm)
12 10-10-1926	Zandvoort	only report by finder (estimated length 300 cm)
13 07-1927	Zaamslag	report by finder, skull was in collection of Van Deinse, now untraceable (estimated length 250 cm)
14 04-09-1927	Zandvoort	scapula was in collection of Van Deinse, now untraceable (estimated length 190 cm)
15 12-1928	Wassenaarse slag	only report by finder (no length given)
16 05-1929	Kamperland	skull collected by finder, now untraceable (no length given)
17 23-08-1929	Noordwijk aan Zee	only report by finder (length 325 cm)
18 08-1930	De Koog, Texel	only report by finder (estimated length 220 cm)
19 08-1930	De Koog, Texel	only report by finder, probably the same as 18 (no length given)
20 08-1930	De Koog, Texel	only report by finder, probably the same as 18 (no length given)
21 01-08-1931	De Koog, Texel	only report by finder (no length given)
22 09-05-1932	Texel	only report by finder (length 355 cm)
23 11-1932	Schouwen	only report by finder (estimated length 350 cm)
24 21-05-1933	Oost-Terschelling	only report by finder (estimated length 230 cm)
25 06-1934	St Anna	only report by finder (length 300 cm, weight 400 kg)
26 17-09-1935	Zandvoort	only report by finder (estimated length 135 cm)
27 12-01-1936	Wijk aan Zee	only report by finder (estimated length 135 cm)
28 01-06-1936	Terschelling	only report by finder (estimated length 200 cm)
29 05-1937	Ameland, Hollum	only report by finder (estimated length 330 cm)
30 19-06-1937	Texel	only report by finder (male, length 120 cm)
31 20-06-1937	Texel	skull collected, untraceable (sex-length unknown), possibly the same as 29
32 04-1938	Noordwijk aan Zee	only report by finder (estimated length 150 cm)
33 20-06-1937	Texel	report by finder, skull collected by finder, now untraceable

		(estimated length 215 cm)
34	05-1937	Terschelling
35	05-08-1937	Terschelling
36	23-08-1937	Texel
37	09-1937	Hoek van Holland Zuid
38	10-1937	Texel
39	01-11-1937	's-Gravenzande
40	19-02-1938	Medemblik
41	04-1938	Noordwijk aan Zee
42	09-09-1938	Loosduinen
43	18-09-1938	Hoek van Holland Noord
44	31-10-1938	Hoek van Holland Noord
45	31-10-1938	Terheijde
46	07-11-1938	Terheijde
47	08-11-1938	Serooskerke
48	13-06-1939	Noordwijkerhout
49	03-07-1939	Texel, Slufter
50	15-10-1939	Terheijde
51	31-03-1940	's-Gravenzande
52	06-08-1940	Scheveningen
53	13-09-1940	Wissekerke
54	16-12-1940	Wissekerke
55	09-02-1941	Wieringen
56	29-06-1941	Hondsbosche Zeewering
57	09-11-1941	Katwijk aan Zee
58	09-11-1941	Ameland, Nes
59	01-01-1942	Zandvoort
60	03-04-1942	Wassenaarse slag
61	26-09-1942	Vlieland
62	22-06-1943	Texel, de Mok
63	16-07-1943	Texel, Oudeschild
64	07-1943	Vlieland, Vliehors
65	16-07-1943	Texel
66	19-07-1943	Texel, Slufter
67	09-08-1943	Vlissingen
68	10-08-1943	Vlieland, Vliehors
69	02-09-1943	Vlieland, Vliehors
70	29-11-1943	Vlieland, Noordstrand
71	30-09-1945	Voorne
72	1946	Scheveningen
73	08-05-1946	Zandvoort

74	15-09-1945	Wieringen	only report by finder (length 'average')
75	09-08-1946	Terschelling	only report by finder (no length given)
76	27-08-1946	Zandvoort, beachm.69	only report by finder (estimated length 300 cm)
77	14-08-1946	Den Helder	only report by finder (estimated length 135 cm)
78	27-08-1946	Zandvoort	only report by finder (estimated length 300 cm)
79	01-09-1946	Zandvoort, beachm.68	probably the same as 76 (estimated length 300 cm)
80	05-09-1946	Zandvoort	probably the same as 76 and 79 (estimated length 310 cm)
81	10-09-1946	Noordwijk aan Zee	only report by finder (estimated length 350 cm)
82	25-05-1947	Terschelling	only report by finder (length 338 cm)
83	03-06-1947	Zoutelande	only report by finder (length 190 cm)
84	10-06-1947	Kijkduin	only report by finder (estimated length 175 cm)
85	12-07-1947	Terheijde/Monster	only report by finder (estimated length 250 cm)
86	14-09-1947	Wijk aan Zee	only report by finder (length 150 cm)
87	07-12-1947	Noordwijk aan Zee	only report by finder (estimated length 160 cm)
88	06-01-1948	Noordwijk aan Zee	only report by finder (estimated length 125 cm), possibly the same as 87
89	17-04-1948	Terschelling	only report by finder (length 325 cm)
90	29-05-1948	Petten	only report by finder (length 204 cm)
91	20-07-1948	Terschelling	only report by finder (no length given)
92	21-09-1948	Wassenaarse slag	only report by finder (estimated length 200 cm)
93	20-09-1948	Noordwijk	only report by finder (estimated length 150 cm)
94	05-05-1949	Helderse zeedijk	only report by finder (female, length 310 cm)
95	21-08-1949	Wijk aan Zee	only report by finder (estimated length 250 cm)
96	18-09-1949	Wassenaarse slag	only report by finder (estimated length 140 cm)
97	07-12-1949	Noordwijkerhout	only report by finder (estimated length 160 cm)
98	13-04-1950	Hollum Ameland	only report by finder (estimated length 300 cm)
99	30-04-1950	Terschelling	only report by finder (male, length 263 cm)
100	1952	??	only mentioned as finding by Van Deinse (1953)
101	1952	??	ditto
102	1952	??	ditto
103	1952	??	ditto
104	1952	??	ditto
105	1953	??	mentioned as finding by Van Deinse (1954)
106	1953	??	ditto
107	1953	??	ditto
108	1954	??	only mentioned as finding by Van Deinse (1955)
109	1954	??	ditto
110	1954	??	ditto
111	1954	??	ditto
112	1954	??	ditto
113	1954	??	ditto
114	1954	??	ditto
115	1954	??	ditto
116	1954	??	ditto
117	1954	??	ditto
118	1954	??	ditto
119	27-08-1955	Cadzand	only report by finder (length 120 cm)

120	1955	Ameland	only mentioned by Van Deinse (1956)
121	1955	Ameland	ditto
122	07-1955	Terschelling	ditto, length 400 cm
123	1955	Terschelling	only mentioned by Van Deinse (1956)
124	01-1956	Texel	only report by finder (length 228 cm)
125	1956	??	only mentioned by Van Deinse (1957)
126	1956	??	ditto
127	1956	??	ditto
128	1956	??	ditto
129	04-03-1956	Terschelling	only report by finder (estimated length 200 cm)
130	24-08-1956	Petten	only report by finder (male, estimated length 400 cm)
131	01-02-1957	Terschelling	only report by finder
132	1958	??	only mentioned as finding by Van Deinse (1959)
133	1958	??	ditto
134	1958	??	ditto
135	06-07-1958	Schiermonnikoog	only report by finder (length 380 cm)
136	1959	??	only mentioned as finding by Van Deinse (1960)
137	1959	??	ditto
138	1959	??	ditto
139	1959	??	ditto
140	1959	??	ditto
141	04-12-1960	IJmuiden	only report by finder (estimated length 300 cm)
142	1960	??	only mentioned by Van Deinse (1961)
143	1960	??	ditto
144	1960	??	ditto
145	1960	??	ditto
146	1960	??	ditto
147	1960	??	ditto
148	1960	??	ditto
149	1961	Bakkeveen	only mentioned by Van Deinse (1962), length 250 cm
150	1961	Kamperduin	ditto, length 130cm
151	1961	Kamperduin	ditto, length 180 cm, possibly the same as the latter
152	1961	Zandvoort	ditto, length 187 cm
153	1961	Terschelling	ditto, length 123 cm
154	1961	Terschelling	ditto, length 225 cm
155	1961	Terschelling	ditto, length 237 cm
156	1961	Terschelling	ditto, length 320 cm
157	1961	Renesse	ditto, length 256 cm
158	04-01-1962	Schoorl	only report by finder (estimated length 275 cm)
159	17-02-1962	Bakkum aan Zee	only report by finder (estimated length 190 cm)
160	1962	??	only reported by Van Deinse (1963), length 155 cm
161	1962	??	ditto, length 200 cm
162	1962	??	ditto, length 225 cm
163	1962	??	ditto, length 220 cm
164	1962	??	ditto, length 350 cm
165	1963	??	only reported by Van Deinse (1964), length 200 cm
166	1963	??	ditto, length 250 cm

167	1963	??	ditto, length 325 cm
168	1963	??	ditto, length 325 cm
169	1963	??	ditto, length 342 cm
170	1963	??	ditto, length 342 cm
171	02-07-1964	Den Oever	only report by finder (estimated length 250 cm)
172	05-1965	Castricum	only report (reported as beaked whale) by newspaper (estimated length 250 cm)
173	31-05-1965	Rottum	only report by finder (length 315 cm)
174	12-01-1974	Terschelling	only report by finder (no length given)
175	24-05-1977	Zandvoort	only report by finder (estimated length 270-300 cm)
176	23-01-1978	Schiermonnikoog	only report by finder (estimated length 260 cm)
