Review of 16th Century North Sea sperm whale strandings, including three recently re-discovered records from the East Frisian coast of Germany

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Abstract: A review of 16th Century sperm whale strandings in North Sea waters provided three additional and revealing stranding events from the German North Sea coast in 1511, 1577 and 1580, respectively and some valuable insights into historical stranding events.

Keywords: sperm whale, strandings, North Sea, 16th Century.

Introduction

Even today sperm whales continue to challenge the imagination of mankind. They have been doing so for as long as humans have been around, and it is therefore not surprising that information about the strandings of these enigmatic giants has been preserved in historical writings.

The data on past and present sperm whale strandings along the coasts of the greater North Sea from 1254 until 2016 have recently been reviewed and listed by Smeenk & Evans (2018) and by Kinze (2020) for the 18th Century. For the 16th Century, records have been documented for the following years: 1563, 1566, 1572, 1575, 1577, c. 1582 and 1598. Here, three additional records from the East Frisian coast of Germany, for the years 1511, 1577 and 1580 are presented along with a review of North Sea sperm whale strandings throughout the entire 16th Century.

Material and methods

A discovery of a hitherto overlooked German source (Wagner 1580) and the re-identification of a 1580 depiction of a 60 feet (ca. 18 m) toothed whale initiated a full review of 16th Century strandings, based on the work by Smeenk & Evans (2018) and the sources contained in their comprehensive review. The reliability of the recorded total lengths of the stranded sperm whales was assessed whenever both total length and the fluke span of the individual were available. Bartelmeß and Münzing (1991) found the fluke span to vary between 22.8 and 26% of the total length which fully matches modern standards as published by Fujino (1956) who found the fluke span to amount between 20 and 30% of the total length with a mean of 25%.

List of records

1511, January - Mid-East-Frisian coast, Germany. Total length 43 feet.
A 1580 treatise by Marcus Wagner on three large storm floods contained a description of

a sperm whale stranding that until now has been overlooked by natural historians. It concerns a 43 feet individual yielding a *Last* of oil (1 *Last* = 2 tonnes or 2.7 m^3 or 2700 litres of oil) which were sold domestically. The treatise stated the presence of white *rath* (= Walrath in German; spermaceti oil): a diagnostic feature of the sperm whale. The head of the whale was kept for some time in the *Kunstkammer* (natural history cabinet) in the castle of Jever, but a merchant seized it and possibly subsequently went 'on tour' with it. The present whereabouts of the head is not known and most likely the specimen got lost (for details view the original German text in Appendix 1).

Wagner stated the year of the stranding to be 1512, but since his treatise was written almost seven decades after the event, he may have referred to the so-called Antoni flood of January 1511 instead (Hamm 1976).

1563, December - Grimsby Lincolnshire. Total length 19 yards.
Smeenk & Evans (2018) quote Howes (2010) for this stranding event. Howes, however, only indirectly provided these details, which were available from his source for the stranding event (Southwell 1881). Here, the total length of the whale is given as 19 yards = 57 feet and the fluke span to 15 feet or 26.3 % of the total length.

1566, 11 March - Zandvoort, the Netherlands. Total length 42 feet.
Smeenk & Evans (2018) list Mulder (1836) as their earliest reference for this information, where it, however, is not contained. Instead, the information stems from Houttuyn (1762). A depiction of the whale is found in Adriaen Coenen's fish book of 1585 (Egmond & Mason 2003).

1572, 1-2 November (12/13 November) - Skallingkrog, Denmark. Three 'large whales'.
The source for this mass stranding is a Latin text published in Rørdam (1896). The text reads: *Vi tempestatum appulaerunt tria grandia cete quæ destita aqua et in sicco relicta emoribatur in littore Synderside udi Skallingkraag. [Due to the force of the storm, three large whales stranded on falling tide and were left on dry land to die on the shore of Synderside in Skallingkraag.]*

Such a multiple stranding event along with the season and a pre-stranding tempest are all indicative of sperm whales. Smeenk and Evans (2018) refer to this case *fide* Carl Kinze.

1575, month not known - Tønder (German name Tondern) Southern Denmark. Total length not known.
The township of Tønder/Tondern in the Duchy of Sleswick (Schleswig) during the 16th Century still had a seaport with direct access to the North Sea. The stranding site most likely lay in the former tidal estuary of the Vidå/Wiedau-river between the what is now the German island of Sylt and the present Danish island of Rømø. Duke Johan the Elder of Sleswick subsequently presented the cleaned head of the whale, considered an utmost rarity, to Duchess Anna of Saxony, who was residing in Dresden, Germany. She was the daughter of Christian III of Denmark and was married to the Prince Elector and Duke of Saxony (Mohr 1935, 1967). It is not known how the head was transported from Tønder/Tondern to Dresden but most likely it went up the River Elbe. The head of the whale was kept in the *Kunstkammer* of Dresden, and subsequently exhibited in the Dresden Zoological Museum (Anon 1894). The specimen was destroyed during the Second World War in February 1945.

1575, 9 July (Julian date 20 July) - Isle of Thanet. Total length 20 ells or 40 feet.
Thornburn (1921) refers to Baker's 1670 *Chronicle of the Kings of England* where reference is made to a stranding on the island of Thanet in the 17th year of the reign of Queen Elizabeth I (Baker 1670: 419-420). View the original text in Appendix 1. Elizabeth I ascended to the throne in November 1558. Counting 1558 as her first year, 1575 would be the most likely year.

Figure 1. Close-up of the whale depicted on David Fabricius' map (Sello 1896). Niedersächsische Staats- und Universitätsbibliothek Göttingen. Public Domain Mark 1.0.

1577, 2-5 July - Westerschelde. Belgium/ the Netherlands. Total length 58 feet.
This stranding event is well-documented by a series of temporaneous reports (Bartelmeß & Münzing 1991, Faust 2002).
There are two fluke spans reported for this individual: 14 feet (24.3% of the total length) according to Bartelmeß & Münzing (1991) and 13 feet, 3 inch (22.8%) according to Bartelmeß & Münzing (1991) and Faust (2002).

1577, 19 November - Between Jade and Rüstingen, Germany. Live stranding of a 52½ feet sperm whale.
A 1580 treatise by Marcus Wagner on three large storm floods contains a description of sperm whale strandings hitherto overlooked by natural history scholars. This individual most likely was part of the large group of whales of which several animals were subsequently stranded at Ter Heijde due to a large tempest also referred to by Wagner (1580). For details view the Appendix.

1577, 22-23 November - Ter Heijde, the Netherlands. Three animals of 48, 49 and 55 feet.
Several temporaneous reports document this mass stranding (see Bartelmeß & Münzing 1991, Faust 2002).
Houttuyn (1762) provided the total lengths of the three individuals. For one of the animals an apparently more precise total length of 49 feet, 5½ inch was given along with a fluke span of 11 feet, 3½ inch (22.8 % of the total length; Bartelmeß & Münzing 1991, Faust 2002).

1580, 26 November - between Dornumer and Frederikensiel on the East Frisian coast of Germany. Total length 60 feet.
Goethe (1983) listed this stranding as an unspecified whale, drawing on Hamm (1976). Kinze et al (2020) did not include this stranding in their review. However, a map produced by David Fabricius around 1592 (Sello, 1896) contains a drawing of a large whale with teeth, in the upper but not the lower jaw. Although hidden in the gum, these maxillary teeth indicate a sperm whale. A bulbous head is not depicted, but this could be due to the removal of the spermaceti organ. Details of the depiction are shown in Figure 1.

Around 1582 – Caister, Great Yarmouth. Total length not known.
Southwell (1881) researched this case in detail. Whilst the species determination is indisputable, an exact year of the event is lacking. It is not impossible that the event took place during 1580.

1598, 3 February – Berckhey (Berkheide), near Wassenaar, the Netherlands. Total length 52

feet.
This stranding event has been well-documented with several body dimensions given (Barthelmeß 1989, Bartelmeß & Münzing 1991, Faust 2002). The fluke span measured 13 feet, 2 inch, which is 26.0% of the total length.

Discussion and concluding remarks

With three re-discovered records for the 16th Century, it is clear that it is possible that further historical sperm whale strandings might be discovered in historical chronicles and other unpublished sources. Of the 16 strandings identified so far there is a lack of data regarding the month and also, in one case, the exact year. Notably the majority of strandings in the 16th Century occurred in November, but some also in July.

The total lengths of the individuals ranged from 40 to 60 feet with a mean of 52 feet. Additionally, the fluke span of four individuals was also measured. This ranged from 22.8 to 26.3% of the total body length, which is in accordance with the range of this measurement provided by Fujino (1956) from Japanese whaling operations. Therefore, the total lengths of these stranded sperm whales can reliably be compared with subsequent and more recent stranding events.

The November 1577 event, with the additional stranding from the present-day German North Sea coast, should be counted among the largest mass strandings of the species on record for the greater North Sea. Such sperm whale strandings might initially seem to be anecdotal. However, they can be interesting from another point of view. The data can provide not only insights into the historical stranding rate vs. the current one, but also about the size of the stranded animals in the past vs. the size of the animals we find on the same coasts nowadays. The population of sperm whales has gone through large changes in recent history, as a result of whaling, followed by its cessation and the subsequent recovery of the population (Smeenk & Evans 2018), possibly leading to a change in the population dynamics (i.e. the number of juveniles vs. adults). It is also possible that climate change is bringing about changes to the distribution of sperm whales with, for instance, the first record of a female sperm whale in the UK in July 2016 (Deaville et al. 2017), and to its migration patterns (i.e. overwintering immature and maturing male sperm whales in Norway (Pöyhönen et al. 2024), which possibly also influences strandings and the sizes of stranded whales.

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Samenvatting

Een overzicht van potvisstrandingen rond de Noordzee in de 16e eeuw, inclusief drie herontdekte strandingen langs de kust van het Duitse Oost-Friesland

In dit artikel worden alle tot nu toe uit de 16e eeuw bekende strandingen van potvissen op de kusten van de Noordzee besproken. Naast de reeds in de literatuur genoemde strandingen, worden drie aanvullende, middels historisch onderzoek ontdekte, potvisstrandingen in de jaren 1511, 1577 en 1580 gepresenteerd. Informatie over aantallen en lengtes van gestrande potvissen en over strandingslocaties in historische tijden zijn waardevol. We kunnen deze vergelijken met recentere strandingen, en ze relateren aan de opkomst en neergang van de walvisvaart en aan klimaatverandering.

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Appendix 1

Southwell's (1881) quote of the original text: *Description of a large Fish driven on shore at Great Grimsby in 1563*

In the month of December 1563 was drevyn on y^e^ at Grymsby in Lyncolneshire a great and monsterus fysh in length Xix yerdes his tayle 15 fete brode & of 6 yerdis between his 2 eyes he had in his lowar Jaws 92 tethe & none aboffe. Every to the weyed 1 lb & 1 oz in the the rofe of his mouthe he had a harp with a string naturally his heygth could not be then desernyd for that he lay so depe in the sande there might walke in a ranck 3 men between rib & robrt pinder habdasshr affermyd that he w^t^ other men did see 12 men stand in the monthe of here to saue the oyle that she had and & the toke out of her hed more than 2 tonnes of oyle. There was 14 days before the coming of the sayde pinder 30 men working about her & were not into ye rib of her. The townsmen of Grymsby did off 200£ for the oyle that was in her.

Baker, R. 1670. A Chronicle of the Kings of England: From the Time of the Romans Government, pp 419-420.

A mighty Whale taken in Thanet in Kent

In her seventeenth year, a mighty Whale was cast upon the Isel of Thanet in Kent, twenty Ells long, and thirteen foot broad from the belly to the back-bone, and eleven foot between the eyes, One of his eyes being taken out of his head, was more than a Cart with six Horses could draw. The Oyl being boyled out of the head, was Parmacetti [=spermaceti].

Wagner 1680. Einfeltige kurtze ... Historiae von den dreyen Wasserfluten in Phrißlandt, derer die erste ... 1512 ... ergangen : sampt Beschreibung zweyer grossen ungehewren Walfische.

Es ist desgleichen Anno 1512. Ein grosser Walfisch auch in der Flut gefangen/ und ins Landt bracht worden/ Nach dem er in stücken zertheilet worden ist/ und der Kopff ins Jeverische Schloss/ eine lange weil gewesen/ Aber endlich durch unachtsamkeit/ durch einen Kaufman/beybracht/ und hinweg gefurt worden/ der hat 43. Menschen Schuhe gehabt/ und auch schrecklich zu sehen gewesen/ welchen auch Leute/ so noch in frischer gedechtniß leben/gesehen/und iren Füssen gemessen haben.

Der todte Walfsich/ ist durch angeben und vorsichtigem weisen Rath/ dero Lender Rendmeister/ den Unterthanen zu nutz und aller bestem/ ins Land geschleppet/ und bescheidentlich verfasset/ und daraus groß Geldt gelöset haben. Denn es darvon den nutz hat/ das man Thron daraus machet/ so die Töpffer zu Ihrem Handwercke gebrauchen/ Und denn fort auch mehr/ als Schustern/ und andern opisïbus/ in hrer Narung kann und mag zu hülffe kommen/ und einen leiflichen Pfennig tragen. Weiviel nu Last ein Walfisch wol bringen/und haben kann/muß manvon den gewiß erkundigen/ und erfaren/ so sich der Narung gebrauchen/zu See warts/ Aber von diesem toten todten Walfisch hat man nicht mehr denn in die 30. Last Throns/ in fremde Landtverkeuffen lassen/ ohne was sie selbst behalten/und in den umligende Stedten/ ihren Handwercke zu gute/wiligliche nachnachgelassen und verkaufft haben […]

1577

Anno 1577 den 19. Novemberis. Ist ein groß Walfisch lebendig zwischen Jaget und Rustringer Land/ in Phrißland ankommen/ unf auff uberrahm ans Land angetrieben worden/ und mit sich eine grosse Flut bracht/ daven dem Lande groß schaden entstanden/welches in des orts Landesv vorhin niemals erhört worden ist, […]

Es ist aber der Walfisch lang gewesen/ zwey und funffzig/ und einen halben zimlichen Menschen Schuhe/ Und der Riebenfleisch eine so von unten am Bauch abgeschnitte ist/ heltet in die lenge/ drey und funffzig Schuhe. […]

Es haben solche thier/ viel Leute gesehen. Sonderlich der Wolgeborene un Edele Herr Johann/ Graffe zu Oldenborgk/ und Delmenhorst/ und Herr zu Jevera/ sampt ihren Gnaden Frewlein/ und andern viel vom Adel/ Bürger und Unterthanen. […]

Und nachdem sie eine gute weile daran gearbeitet haben sie biß 12 Thonnen abgefasset/ und in ein Gefeß gebracht