INTERESTING RECORDS OF WHALE EPIZOIC CRUSTACEANS FROM THE DUTCH NORTH SEA COAST (CIRRIPEDIA, AMPHIPODA)

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Sea mammals form a mobile substrate for epizoic and parasitic crustaceans. In 2003 the humpback whale was observed for the first time in Dutch waters. Three species of barnacle and one amphipod were collected from two young humpback whales, found dead along the Dutch coast. Of the four crustacean species three proved to be first records for the Dutch fauna. In this paper the information on distribution, historical findings and details on the new records are provided. The collected crustacean specimens, as well as the whale skeletons, are deposited in the collections of the National Museum of Natural History in Leiden, accessible for further study.

INTRODUCTION

In the second half of 2003 two juvenile (not more than circa one year old) humpback whales *Megaptera novaeangliae* (Borowski, 1781) were found dead off the Dutch coast. The first animal (a female) was seen afloat off Hoek van Holland on September 29. Since it was close to the Rotterdam port entrance and formed a potential hazard to shipping, the coastal authorities decided to tow it further offshore. On October 7, however, the carcass ended up on the so-called 'Maasvlakte' south of the port area, in an advanced state of decomposition. On December 18, an adult and young humpback, presumably a mother and calf, were observed and photographed alive off 's-Gravezande, just north of Hoek van Holland. The observers lost sight of the animals at dusk. The whales were not seen again the next day, but in the morning of December 20 a dead juvenile male humpback was found floating off Katwijk and towed ashore by lifeboats (fig. 1). The animal was freshly dead and heavily mutilated, with the tailstock and part of a flipper cut off. Apparently it had died in heavy fishing gear during the previous day or night. Comparison of the shape and scarring pattern of its dorsal fin with that of the juvenile photographed two days earlier made clear that it was the same animal. The adult was still observed and photographed in the area on various occasions during January 2004. The humpback is a vagrant in the southern North Sea and had not been reported before from Dutch waters (Smeenk et al. 2003).

Investigation of the dead humpbacks provided interesting material of crustacean epizoites and parasites. In total four species were found, of which three are new to the Dutch fauna. Specimens have been deposited in the collection of the National Museum of Naturalis History, Leiden (formerly Rijksmuseum van Natuurlijke Historie, RMNH) and the Natuurmuseum Rotterdam. The skeletons of both whales have been deposited in the Leiden Museum.

CIRRIPEDIA

Conchoderma auritum (Linnaeus, 1767)

Five specimens of *Conchoderma auritum* (fig. 2) (four of which were collected: RMNH, collection number C 2599, one became lost) were found on the circa one year old calf of the humpback washed up near Katwijk. This is not the first record of *C. auritum* from the Netherlands, but it is the first Dutch record from a whale. Maitland (1897), in his checklist of the Dutch and Belgian fauna mentioned '*Otion aurita*' without any other indication than 'ég.' [= égarée, meaning lost]. In his earlier list of the Dutch Crustacea Maitland

Figure 1
Humpback whale on beach near Katwijk with numerous *Coronula diadema* visible on lower jaw. Photo Martijn de Jonge.
Figuur 1
Bultrug op het strand bij Katwijk met vele *Coronula diadema* zichtbaar op de onderkaak. Foto Martijn de Jonge.

(1874) did not include this species. Also in most later publications the species is not listed as belonging to the Dutch fauna. De Graaf (1961), in a review of the Dutch pedunculate Cirripedia, remarked for *C. auritum* (in translation): 'Not yet known from our coast, but introduced with ships'. The collection of the National Museum of Natural History in Leiden does have a few specimens found in Dutch waters, but none carried by whales. The oldest of these consists of a dozen specimens (RMNH C 605) taken from the hull of a ship (M.V. 'Arnhem') in the harbour of Delfzijl, province of Groningen, in the northern part of the Netherlands. This material was collected on February 14, 1957 by A.K. Schuitema, who obtained the information that the ship had arrived in Delfzijl from Singapore via the Cape of Good Hope. On September 3-4, 1977 two specimens (RMNH C 1569) were taken from a buoy (with the number TE 7), that was washed ashore on the North Sea beach of the Frisian island of Terschelling near the village of Oosterend; they were collected by G. Doeksen. It is known that this buoy had been completely cleaned, repainted, and placed in its position at 53°31'24"N 5°17'57"E on September 8, 1975. It occupied this position until in September 1977 it broke adrift and was stranded on the coast of Terschelling. This thus is the first definite record of *C. auritum* actually being native in the Netherlands. Finally, about 20 specimens (RMNH C 2007) of *C. auritum* were taken in the southern North Sea from the buoy UN 11 by the crew of M.V. 'Breeveertien' of the Dutch pilotage service. The position of the buoy

Figure 2
Ventral side of lower jaw of the humpback whale stranded at Katwijk with: a. *Conchoderma auritum,* b. *Coronula diadema*, c. *Cyamus boopis*. Photo Martijn de Jonge.
Figuur 2
Onderzijde van de onderkaak van de bultrug, aangespoeld bij Katwijk, met: a. *Conchoderma auritum*, b. *Coronula diadema,* c. *Cyamus boopis*. Foto Martijn de Jonge.

Figure 3
Coronula reginae on the juvenile humpback of the 'Maasvlakte'. Photo Martijn de Jonge.
Figuur 3
Coronula reginae op de jonge bultrug van de Maasvlakte. Foto Martijn de Jonge.

was 52°53'25"N 4°18'15"E. The species evidently is not very rare in the Dutch part of the North Sea where suitable substrates are found.
In the Belgian literature from the 19th and early 20th century (e.g. Lameere 1895, 1938) the species is not mentioned as indigenous. The first Belgian record known to us is by Lefèvere (1969) who reported material from a Sowerby's beaked whale *Mesoplodon bidens* (Sowerby, 1804) washed ashore on the Belgian North Sea coast near Heist on February 18, 1969. The Belgian record of the species by Van Frausum (1989), evidently is based on Lefèvere's (1969) report. Nilsson-Cantell's (1978) record of the species from Belgium clearly is based on two specimens in the collection of the Koninklijk Belgisch Instituut voor Natuurwetenschappen in Brussels. These were obtained on May 1, 1915 from the hull of the three-master 'Watcher' in the harbour of Ostende. This material was examined and identified in 1930 by C.A. Nilsson-Cantell (information kindly provided by K. Wouters).

Coronula diadema (Linnaeus, 1767)

Both humpback whales stranded on the Dutch coast carried numerous *Coronula diadema* (fig. 2). The first (the one from the 'Maasvlakte') carried about 90 large specimens (RMNH C 2598) on the anterior part of the lower surface of the body, on the tips of the tail, and on the flipper margins. The juvenile humpback that was stranded near Katwijk carried about 80 well-developed specimens (RMNH C 2600) on the anterior part of the lower surface of the body and on the flipper margins; the tail in this specimen was missing. So far, the species had not been reported from the North Sea coasts of the Netherlands or Belgium (see Nilsson-Cantell (1978)). The barnacles were well developed, and four of them on the second whale carried a specimen of the goose barnacle *Conchoderma auritum.*
Nilsson-Cantell (1978), in his monograph of the North East Atlantic Cirripedia Thoracica, records the nearest known finds from the Shetland Islands and Faeroes. The present record is the southernmost in the northeastern Atlantic. The species is cosmopolitan on various species of baleen whales (Newman & Ross 1976). In the collection of the Leiden Museum there are numerous specimens from the Antarctic region found on humpback whales, collected there in 1946-1948 by W. Vervoort (RMNH C 194, 196-199)

Coronula reginae Darwin, 1854

Of *Coronula reginae* (fig. 3), which is closely related to *C. diadema*, about 20 specimens (RMNH C 2597) were found on the juvenile humpback of the 'Maasvlakte'. So far, no records of this species have been published from the North Sea. According to Nilsson-Cantell (1978), the species has been reported from northern Norway, the north coast of Denmark and from Iceland. Newman & Ross (1976) reported that *C. reginae* is known from the Atlantic and Pacific Oceans epizoic on humpback whales. The collection of the Leiden Museum holds material from the Antarctic collected from humpbacks by W. Vervoort between 1946 and 1948 (RMNH C 201-211).

AMPHIPODA

Cyamus boopis Lütken, 1870

On both humpback whales, *Cyamus boopis* (fig. 2) was found. From the carcass on the 'Maasvlakte' circa 75 specimens of *Cyamus* were collected from among the *Coronula* of the tail (RMNH A 4998). When, after a few days, a search for the species was made on the other parts of the whale's body none were observed. They might have been washed off as the carcass had been afloat for about a week. On the whale found near Katwijk about 15 specimens of this *Cyamus* species were obtained (RMNH A 4999).
Cyamus boopis has been recorded as a parasite of humpback whales and perhaps also from sperm whales *Physeter macrocephalus* Linnaeus, 1758.
So far as we know, the species has not been reported before from the southern North Sea. From the North Atlantic there are several reports,

e.g. from Norwegian waters, Greenland and Iceland. It seems to have a practically worldwide distribution.

ACKNOWLEDGEMENTS

The Division of Mammals of the National Museum of Natural History, Leiden, when salvaging parts of the stranded humpback whales, took great care in preserving the epizoic Crustacea. We are greatly indebted to C. Smeenk and M.J. Addink for their attention to these parasites. M. de Jonge is thanked for providing the photographs. I.J. Smit of the Division of Crustacea of the Museum took great care in collecting, preserving and administration of the material. The Nederlands Loodswezen (Netherlands Pilotage Service) in Rotterdam and the Dienst der Hydrografie (Hydrographic Service) in Den Haag, helped us considerably with the location and other information about the Dutch buoys on which *Conchoderma* was found. Dr. K. Wouters of the Koninklijk Belgisch Instituut voor Natuurwetenschappen helped us with literature on Belgian Cirripedia and informed us about the Belgian material of *Conchoderma* in his institute.

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SAMENVATTING

Interessante waarnemingen van epizoïsche kreeftachtigen op zeezoogdieren langs de Nederlandse kust (Cirripedia, Amphipoda)
In de tweede helft van 2003 spoelden twee juveniele bultruggen *Megaptera novaeangliae* (Borowski, 1781) aan op de Nederlands kust, de eerste op 7 oktober op de Maasvlakte net ten zuiden van de ingang tot de haven van Rotterdam, de tweede op 20 december nabij Katwijk, Zuid Holland. Deze soort was nog niet eerder gemeld van de Nederlandse kust. Op de bultruggen werden vier soorten kreeftachtigen gevonden: *Conchoderma auritum*, *Coronula diadema*, *C. reginae* en *Cyamus boopis*. De laatste drie soorten zijn nieuw voor de Nederlandse fauna. Exemplaren van de parasieten zijn opgenomen in de collectie van het Nationaal Natuurhistorisch Museum - Naturalis in Leiden.

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