

## First Confirmed Record of Grey Seals in Greenland

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**ABSTRACT.** The presence of grey seals has never before been confirmed in Greenland, but on 30 August 2009 a grey seal was photographed near shore in Southeast Greenland (59°53' N, 43°28' W). The seal was observed within a small group of islands that hosts a harbour seal colony. The following day, a seal that might be a young grey seal was photographed at the same location. Information from Inuit hunters suggests that grey seals periodically visit Greenland, but the pictures taken in summer 2009 are the first solid proof of this seal species in Greenland.

**Key words:** grey (gray) seal, *Halichoerus grypus*, distribution, species range, northward expansion, climate change

**RÉSUMÉ.** La présence de phoques gris n'avait jamais été confirmée au Groenland, mais le 30 août 2009, un phoque gris a été photographié près de la côte sud-est du Groenland (59°53' N, 43°28' O). Le phoque a été observé au sein d'un petit groupement d'îles où se tient une colonie de phoques communs. Le lendemain, un phoque qui était peut-être un jeune phoque gris a été photographié au même endroit. D'après les chasseurs inuits, les phoques gris se rendraient périodiquement au Groenland, mais les photographies prises à l'été 2009 constituent les premières preuves tangibles de la présence de cette espèce de phoque au Groenland.

**Mots clés :** phoque gris, *Halichoerus grypus*, répartition, parcours de l'espèce, expansion vers le nord, changement climatique

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Grey seals (*Halichoerus grypus*) are widely distributed along temperate coasts in the North Atlantic (Rice, 1998). They occur in Iceland, along the Labrador coast in Canada, and into northwestern Russia, but although they are capable of making long-distance migrations (McConnell et al., 1999), there has been no definite evidence so far of grey seals in Greenland. Genetic studies indicate that populations from the east and west Atlantic have been separated for about one million years (Boskovic et al., 1996), and incidents of grey seals crossing from one part of the Atlantic to the other have not been reported.

Grey seals might have occurred periodically in Greenland in historic times. The Danish missionary and zoologist Otto Fabricius, who lived in Greenland from 1768 to 1773, describes a seal species that the Inuit called *siggutooq*—“the long snouted seal” in his *Detailed Description of the Seals of Greenland* (Fabricius, 1790–91, English translation in Kapel, 2005). Fabricius never saw this seal himself and never met a hunter who had caught such a seal. He did, however, talk to several hunters who claimed to have seen them, and he concluded that these seals existed although they must have been very rare in the region.

The Scottish explorer Robert Brown, who visited Greenland in the 1860s, claimed that a skull of a seal caught south of Disko Island (Fig. 1) in 1861 was that of a grey seal

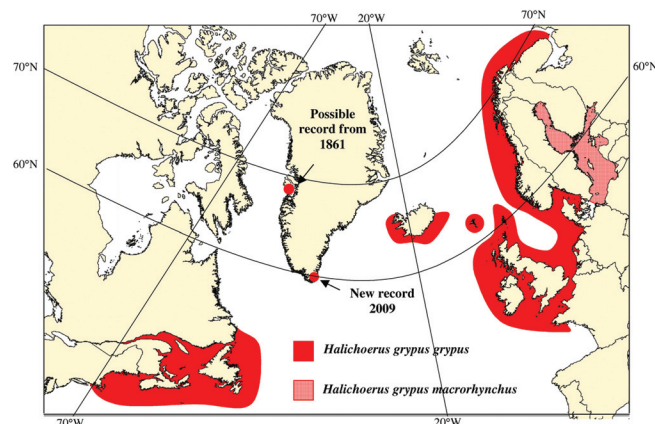


FIG. 1. The present distribution of grey seals (after Thompson and Härkönen, 2008), with positions of a possible grey seal record from 1861 and the new records from 2009.

(Brown, 1868). Unfortunately, a polar bear cub onboard his ship destroyed the skull. Some years later, in 1867, Brown saw a number of skins in the same area, which he believed were from grey seals. The listing of grey seals as vagrants north to Disko Bay in Greenland (Rice, 1998) has its origin in these sightings.

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FIG. 2. A grey seal observed in southern Greenland at 59°53' N, 43°28' W on 30 August 2009.

Although the observations described above might be valid, authors who were Brown's contemporaries do not mention grey seals when describing the Greenlandic fauna. H.J. Rink was a scientist and inspector of the colonies in southwest Greenland and lived in Greenland from 1853 to 1868. In his book about the people living in Greenland (Rink, 1877), he thoroughly described species hunted by the Inuit, but he never mentioned grey seals. Winge (1902) reviewed all the available literature about mammals in Greenland up until the start of the 20th century, including information from Brown (1868), but he did not include the grey seal as part of Greenland's fauna. Apparently Brown had not convinced Winge of the existence of grey seals in Greenland, and none of the successive authors that have described Greenland's fauna have included the grey seal.

Kapel (1970) described the grey seal in the Greenland newspaper *Atuagagdliutit/Grønlandsposten* and asked for information about this species from Greenlandic hunters. But the single person who responded to this request offered only secondhand information about a hunter who had seen a seal that was similar in description to the grey seal (F.O. Kapel, pers. comm. 2010).

The grey seal record presented here is based on pictures taken within a colony of harbour seals in the southeastern part of Greenland (59°53' N, 43°28' W). During a field study in the vicinity of this colony (30 August to 7 September 2009), the seal in Figure 2 was observed on 30 August 2009. The next day, another seal that was possibly a young grey seal (Fig. 3) was observed hauling out next to a small group of harbour seals. This animal had a pelage pattern somewhat different from that of the harbour seals in the colony, and the shape of its head is like that of a young grey seal. However, since the harbour seal pelage pattern can exhibit considerable individual variation, it is uncertain whether this is a young grey seal or an adult harbour seal with an unusual pelage pattern.

The settlement closest to the harbour seal colony is Aapilattoq, located approximately 50 km to the west. During community meetings in November 2009, hunters from this settlement were asked if they had ever seen grey seals before. Two hunters claimed that they had seen these seals before, but that they are very rare. One elder remembered



FIG. 3. Picture of what is possibly a young grey seal, taken at the same position as in Figure 2 on the following day, 31 August 2009.

that a different seal, "probably one of these grey seals," was caught when he was a boy. In combination, the various accounts suggest that grey seals periodically visit Greenland, but that these events are rare and that grey seals thus far have not established permanent colonies in Greenland. Among factors that are likely to facilitate a grey seal range expansion at present are increasing populations in most areas of study (Thompson and Härkönen, 2008) and a generally milder climate in the sub-Arctic part of the North Atlantic.

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#### REFERENCES

- Boskovic, R., Kovacs, K.M., Hammill, M.O., and White, B.N. 1996. Geographic distribution of mitochondrial DNA haplotypes in grey seals (*Halichoerus grypus*). *Canadian Journal of Zoology* 74:1787–1796.
- Brown, R. 1868. On the mammalian fauna of Greenland. *Proceedings of the Zoological Society of London* (May 28):330–362.
- Fabricius, O. 1790–91. Udførlig Beskrivelse over de grønlandske sæle, Første og Andet Stykke [Detailed description of the seals of Greenland, Parts 1 and 2]. Copenhagen: Skriver af Naturhistorie-Selskabet I(1), IV:79–157 and I(2), VIII:73–170.
- Kapel, F.O. 1970. Optræder gråsælen i grønlandske farvande? [Do grey seals come to Greenland waters?] *Atuagagdliutit/Grønlandsposten* 110(15):12.
- . 2005. Otto Fabricius and the seals of Greenland. *Meddelelser om Grønland, Bioscience* 55. 150 p.

- McConnell, B.J., Fedak, M.A., Lovell, P., and Hammond, P.S. 1999. Movements and foraging areas of grey seals in the North Sea. *Journal of Applied Ecology* 36:573–590.
- Rice, D.W. 1998. *Marine mammals of the world: Systematics and distribution*. Special Publication No. 4. Lawrence, Kansas: Society for Marine Mammalogy.
- Rink, H.J. 1877. *Danish Greenland: Its people and its products*. London: H.S. King & Co. (Reprinted 1974; London: C. Hurst & Co. and Copenhagen: A. Busck).
- Thompson, D., and Härkönen, T. 2008. *Halichoerus grypus*. 2009. IUCN Red List of Threatened Species. [www.iucnredlist.org](http://www.iucnredlist.org).
- Winge, H. 1902. Grønlands pattedyr [Mammals of Greenland]. *Meddelelser om Grønland* 21(2):319–521.