

First record of a melanistic grey seal (*Halichoerus grypus*) in Galicia (NW Spain)

Primer registro de una foca gris (*Halichoerus grypus*) melánica en Galicia (NO España)

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On November 26th, 2020 a seal was accidentally captured by a fishery boat in Galicia (NW Spain). It died entangled in a gillnet set at a depth of approximately 72 m and located 2.4 km away from Cape Roncudo (Corme, Ponteceso, A Coruña). The fishermen's guild of Corme notified it to the Galician stranding network and the seal was collected to carry out necropsy. It was identified as a grey seal (*Halichoerus grypus* Fabricius, 1791) male with a weight of 19.5 kg and a total length of 109 cm. It was a two or three-months old pup, featuring a striking

black colour throughout its entire body, on which the dark spots that are typical of the grey seal coat were masked and not appreciated (Figs. 1 and 2).

In Galicia five seals species have been recorded (López 2017), being the grey seal the most frequent one. 99% of the grey seals are two to four-months old pups, that reach the Galician coast mainly between December and March (Covelo *et al.* 2009) from the breeding colonies located in the British Isles.

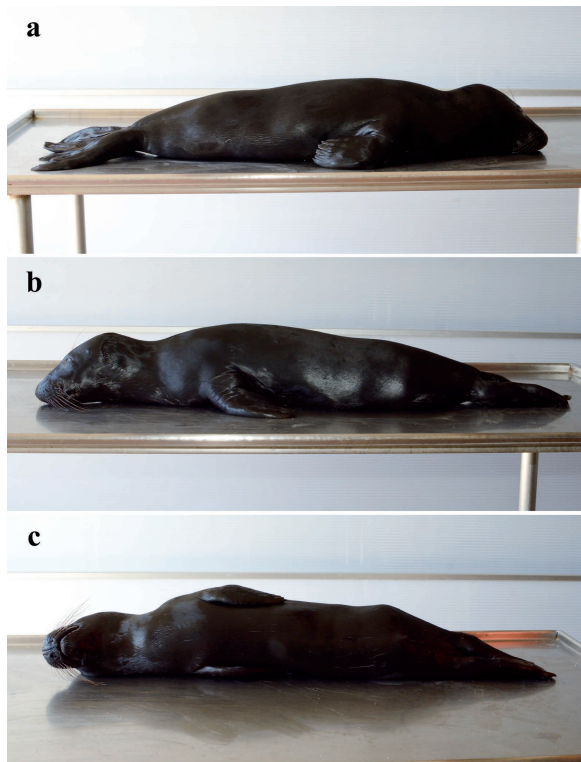


Figure 1. Melanistic grey seal. **a)** Right lateral view. **b)** Left lateral view. **c)** Ventral view.



Figure 2. Examples of grey seal colouration. There are individual, age-related and sex-related variations, but **a)** males tend to be darker, with irregular pale and dark spots, and **b)** females are paler with a more open pattern of the dark spots.

In pinnipeds, there are strong evidences that support the hypothesis that pelage colouration has a functional purpose to match the background on land for pups and background on waters for adults (Caro *et al.* 2012). This could explain why grey seals pups are born with a white coat, which would be due to their subarctic origin to camouflage themselves from predators. As opposed to other pinniped species that are born in caves or isolated islands without terrestrial predators, that give birth to distinctively black pups (Caro *et al.* 2012). Coat colour in mammals is determined by the density of melanin synthesized in the melanocytes, and by the distribution of melanin types (eumelanin, which is responsible for black to brown colour; and pheomelanin, which is responsible for red to yellow colour) on individual hairs (Hoekstra 2006, Mills & Patterson 2009). Due to a lack or excess of those pigments, abnormal colour variations as albinism, leucism, piebald and melanism can occur in marine mammals, with higher frequencies of leucism than melanism (Acevedo *et al.* 2009). Melanism is produced by an excess of melanin, resulting in a dark pigmentation of an animal. As all the colour variations, melanism is caused by a gene mutation or mutations, and could be an adaptation that gives the animal an advantage to survive (Nachman *et al.* 2003). However, in pinnipeds the adaptative interpretation of atypical colourations and their possible advantage are uncertain, and are considered uncommon, being poorly reported in the literature (Romero & Tirira 2017).

Regarding to melanistic grey seals, Hickling (1962) reports that in the Farne Islands (E United Kingdom) they are much less frequent than leucistic ones, but detailed data are not provided. On the Dutch coast, 2 melanistic juveniles were detected in a total of 63 individuals recorded between 1955-1974 (Van Haften 1974), and 4 melanistic seals (all of them younger than two months old) were treated in a rehabilitation centre of a total of approximately 1,200 individuals between 1971 and 2008 (Osinga *et al.* 2010). Despite the lack of more scientific references, some sporadic records can be found thanks to newspapers (e.g. Daily Record 2013, BBC 2017). The seal reported in this note is the first melanistic grey seal observed in Galicia of a total of 171 individuals recorded between 1990 and 2020. Since we haven't found any other report of similar cases from other regions, it could be the first record in the whole of Spain.

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