



Survivors of the South: The Extraordinary Adaptations and Life of Weddell Seals In the Antarctic

James Dickenson*

Department of Ecological Sciences, School of Sciences, Ghana

Abstract

The Weddell Seal, or *Leptonychotes weddellii*, is a fascinating and iconic species that thrives in the harsh and unforgiving environment of the Antarctic. Named after British sealing captain James Weddell, who first encountered them in the early 1820s, these remarkable marine mammals have evolved unique adaptations that allow them to survive and thrive in one of the most extreme regions on Earth.

Keywords: Weddell seals; Adaptation; South pole.

Introduction

Weddell Seals are among the largest of all seal species. Adult males can grow up to 3.5 meters (11.5 feet) in length and weigh around 400 to 600 kilograms (880 to 1,320 pounds). Females are slightly smaller, with an average length of about 3 meters (9.8 feet) and a weight ranging from 300 to 500 kilograms (660 to 1,100 pounds) [1].

Methodology

Their appearance is distinctive, with a mottled gray or brownish coat and a lighter-colored belly. These seals have a relatively small head with large, expressive eyes. Their nostrils are equipped with a muscular flap that allows them to close their airways when diving underwater [2, 3].

Habitat and range

Weddell Seals are primarily found in the waters surrounding the Antarctic continent, especially in the Weddell Sea and the Ross Sea regions. They are known for their strong affinity to sea ice, which is an essential part of their life cycle. During the breeding season, they create breathing holes in the ice, using their strong teeth to maintain these openings even when the ice freezes over [4].

Behaviour and adaptations

One of the most remarkable adaptations of Weddell Seals is their incredible ability to dive to impressive depths and remain submerged for extended periods. They have been recorded diving as deep as 600 meters (1,970 feet) and can stay underwater for more than an hour. To achieve these feats, they have a high concentration of myoglobin in their muscles, which allows them to store more oxygen and endure prolonged dives (Figure 1).

Weddell Seals are also known for their distinct vocalizations, including eerie underwater calls, which they use for communication and locating mates and pups [5-7].

Reproduction

The breeding season for Weddell Seals typically begins in late September or October when the sea ice forms and extends into November. Female seals give birth to a single pup after a gestation period of about nine months. The mothers are highly dedicated to their young, providing them with nourishment through milk that is particularly rich in fat content. Pups are weaned after around six weeks [8].

Diet

These seals are skilled hunters, primarily preying on a variety of fish and invertebrates. Their diet consists mainly of Antarctic silverfish, Antarctic toothfish, and cephalopods such as squid. They use their strong teeth and powerful jaws to catch and consume their prey [9].

Conservation status

As a species that inhabits one of the most remote and inhospitable regions of the world, Weddell Seals have not been significantly impacted by human activity. However, climate change poses a potential threat to their habitat, as sea ice conditions change and affect their ability to find suitable breeding and hunting grounds. Additionally, they may also be at risk of disturbance from human activities related to research or tourism.

Fortunately, Weddell Seals are currently listed as least concern on the IUCN Red List, thanks to international conservation efforts and regulations protecting the Antarctic ecosystem [10].

Conclusion

Weddell Seals are truly extraordinary creatures, perfectly adapted to the harsh environment of the Antarctic. Their resilience and ability to thrive in such extreme conditions make them a symbol of the tenacity of life on our planet. As we continue to study and appreciate these remarkable marine mammals, it is essential to remember the importance of preserving their delicate ecosystem and taking action to mitigate the impacts of climate change on their habitat. Only by protecting these fascinating creatures and their unique environment can we ensure that future generations will have the opportunity to marvel at the wonder of the Antarctic and its inhabitants.

References

1. Granados JAT, Ionides EL, Carpintero O (2012) Climate change and the world

*Corresponding author: James Dickenson, Department of Ecological Sciences, School of Sciences, Ghana, E-mail: James33@hotmail.com

Received: 03-Aug-2023, Manuscript No: JEE-23-109444; **Editor assigned:** 05-Aug-2023, Pre-QC No: JEE-23-109444 (PQ); **Reviewed:** 19-Aug-2023, QC No: JEE-23-109444; **Revised:** 22-Aug-2023, Manuscript No: JEE-23-109444 (R); **Published:** 29-Aug-2023, DOI: 10.4172/2157-7625.1000427

Citation: Dickenson J (2023) Survivors of the South: The Extraordinary Adaptations and Life of Weddell Seals In the Antarctic. J Ecosys Ecograph, 13: 427.

Copyright: © 2023 Dickenson J. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

-
- economy: short-run determinants of atmospheric CO₂. *Environ Sci Pol* 21: 50-62.
2. Murray J, King D (2012) Climate policy: oil's tipping point has passed. *Nature* 481: 433.
 3. Beni AN, Marriner N, Sharifi A, Azizpour J, Kabiri K, et al. (2021) Climate change: A driver of future conflicts in the Persian Gulf Region.
 4. Zenghelis D (2006) *Stern Review: the Economics of Climate Change*. HM Treasury, London, England.
 5. Van Lavieren H, Burt J, Cavalcante G, Marquis E, Benedetti L, et al. (2011) *Managing the Growing Impacts of Development on Fragile Coastal and Marine Ecosystems: Lessons from the Gulf*. UNU-INWEH, Hamilton, ON, Canada.
 6. Burt JA, Paparella F, Al-Mansoori N, Al-Mansoori A, Al-Jailani H (2019) Causes and consequences of the 2017 coral bleaching event in the southern Persian/Arabian Gulf. *Coral Reefs* 38: 567-589.
 7. UNDP (2010) *Mapping of Climate Change Threats and Human Development Impacts in the Arab Region*. United Nations Development Programme, Regional Bureau for Arab States, Arab Human Development Report, UNDP.
 8. Allothman A, Bos M, Fernandes R, Ayhan M (2014) Sea level rise in the north-western part of the Arabian Gulf. *J Geodyn* 81: 105-110.
 9. Mathers E L, Woodworth PL (2004) A study of departures from the inverse-barometer response of sea level to air-pressure forcing at a period of 5 days. *QJR Meteorol Soc* 130: 725-738.
 10. Gurevich AE, Chilingarian GV (1993) Subsidence over producing oil and gas fields, and gas leakage to the surface. *J Pet Sci Eng* 9: 239-250.