Variation in myoglobin content of skeletal muscle of seal species.

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1 Introduction

Aquatic and marine mammals are able to dive underwater for extended periods as a result of having a higher muscle myoglobin concentration than terrestrial mammals (Kanatous and Mammen 2010). Noren and Williams (2000) found that 83% of the variation in Toothed whale species (odontocetes) dive capacity was accounted for by body mass and myoglobin content. Seal species are also known to vary in dive length. We investigated whether the concentration of myoglobin differed between three species of seal: Weddell Seal, Harbour Seals and Bladdernose Seals. See Figure 1

Figure 1: Baby Weddell Seals are very cute. By Photo © Samuel Blanc, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=3877642

Table 1: A summary of the data.

species	mean	std	n	se
Bladdernose	44.44	7.82	28	1.48
Harbour	41.60	7.75	28	1.46
Weddell	48.91	8.54	28	1.61

2 Methods

We measured the myoglobin content of the skeletal muscle of 28 individuals in each of three species. We used R (R Core Team 2019) with tidyverse packages (Wickham 2017) for all analyses and the rmarkdown (Allaire et al. 2019) and bookdown (Xie 2016) packages for manuscript preparation.

3 Results

There is a significant difference in myoglobin concentration between species ($F = 5.88$; *d.f.* =2, 81; $p = 0.004$). Post-hoc testing revealed that difference to be between the Weddell seal with the highest myoglobin concentrations ($\bar{x} \pm s.e.$: 48.91 ± 1.61 g Kg^{-1}) and the Harbour seal with the lowest (41.6 ± 1.46 g Kg^{-1}). See Figure 2. I've also gratuitously included a table with the same information just for the sake of including a table. See Table 1.

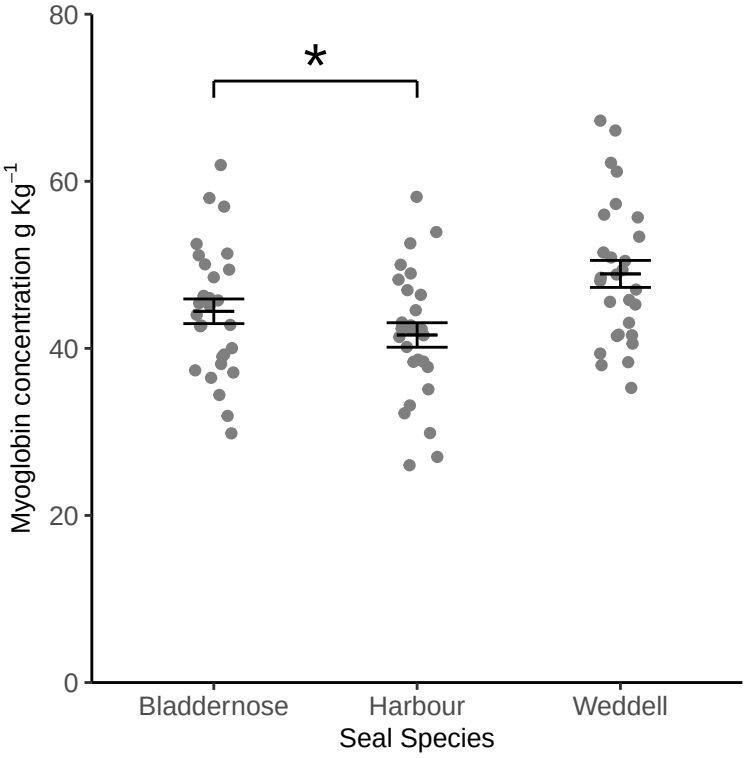

Figure 2: Mean Myoglobin content of skeletal muscle. Error bars are $\pm 1 s.e.$

4 Discussion

Here we pick up points from the introduction. See 1.

References

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