

# Sexual dimorphism of arctic fox skull essay



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Abstract: Sexual dimorphism in feeding structures is a common phenomenon in nature and more specifically in mammals. The purpose of this lab was to determine if canine size and bite force is sexually dimorphic in Arctic foxes (*Vulpes lagopus*). The canine width of female and male fox skulls were measured, as well photographs of fox skulls were used to measure bite force.

The class data used in the study showed evidence that male Arctic foxes were found to have larger canine width as well as a larger bite force than females. The class data collected was analyzed using a t-test. The t-test was used to compare average canine width and average bite force between male and female Arctic foxes to determine if they are sexually dimorphic. For both average canine width and average bite force, the p value was less than 0.05, which showed evidence that the difference in male and female bite force is significant.

As well, the difference in male and female canine width was significant. The data suggested that the differences in the feeding structures of the Arctic fox have resulted from sexual selection, food competition between sexes and dimorphic niche hypothesis. These three hypotheses help explain the results showing that bite force and canine width are sexually dimorphic in the Arctic fox. Introduction: Sexual dimorphism has been a widespread phenomenon and a major focus of evolutionary studies since Charles Darwin and his studies on natural selection in the animal kingdom. Males and females are known to have different reproductive organs; however other sexual differences in traits (odour, size, colour, etc.

) of males and females do exist. The phenomenon of marked differences between the secondary sex characteristics of males and females is known as sexual dimorphism (Reece et al., 2012). A peacock (*Pavo cristatus*) and a peahen are one of the extreme examples of sexual dimorphism. The peacock is known for his long upper tail covert feathers where he displays.

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