

# Does Vashon have a unique subspecies of vole?



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# What are voles?



<b>Microtinae (Voles)</b>	<b>Cricetinae (Mice)</b>
Not associated with human structures	All habitats including buildings
Eat primarily vegetation	Eat primarily seeds but other things too
Small round ears and eyes, short legs and tail, stocky body, coarse dark fur	Eyes and ears large, longer legs and tails, slender, rich light colored fur
Skulls angular, molars columnar	Skull rounded, molars have cusps in two rows
Dependent on runways can be active in daytime	Not dependent on runways, active mainly at night
Ground dwelling	Tree or cliff dwelling as well as ground



**Ecologically an important food source !**

# Introduction: Does Vashon have a unique subspecies of vole?



- Very little information exists on the distribution and characteristics of microtines on the islands of Puget Sound.
- A study was conducted (1980's) comparing *Microtus* on Vashon to each other and to both mainland and peninsular populations on the basis of external skull and body morphology measurements.
- New efforts are starting to carry this research further incorporating genetic research.



*M.oregoni*

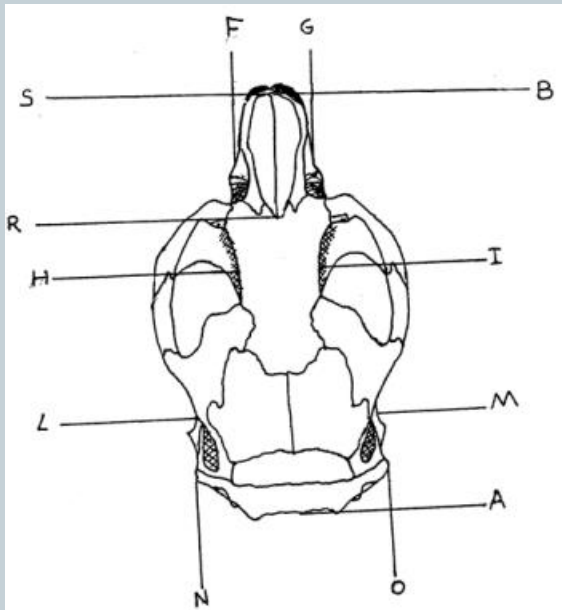


*M.townsendii*

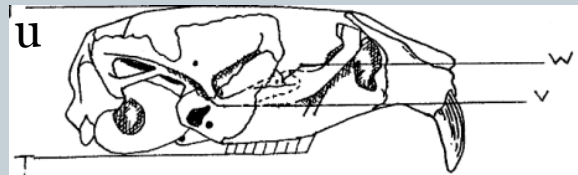
# Methods



- The external skull and body measurements of island voles is being repeated with freshly salvaged (dead) specimens.
- DNA studies will be done to establish subspecific relationships.

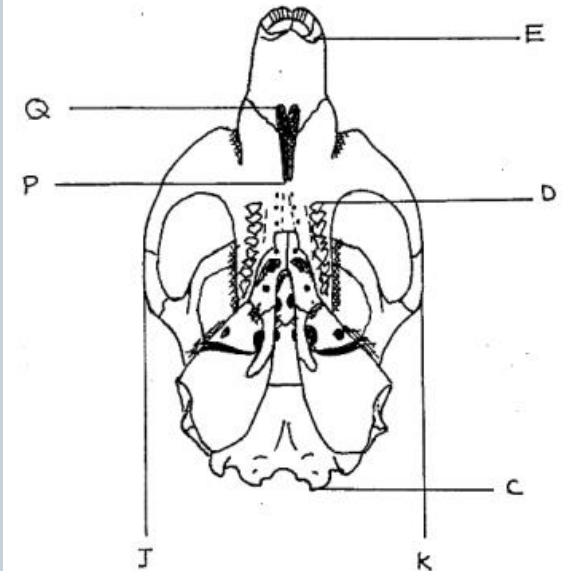


A-B=total skull length



T-U= Height of skull

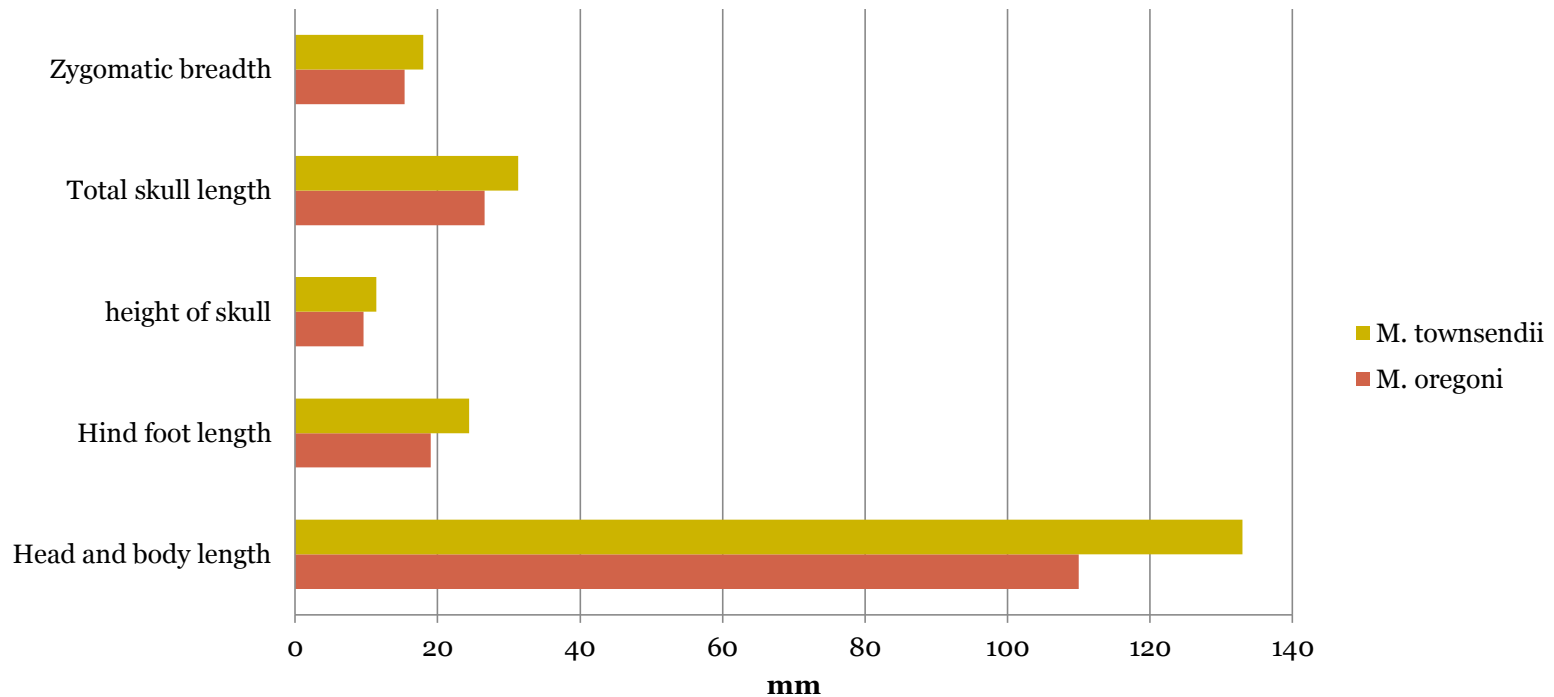
J-K= Zygomatic breadth



# RESULTS

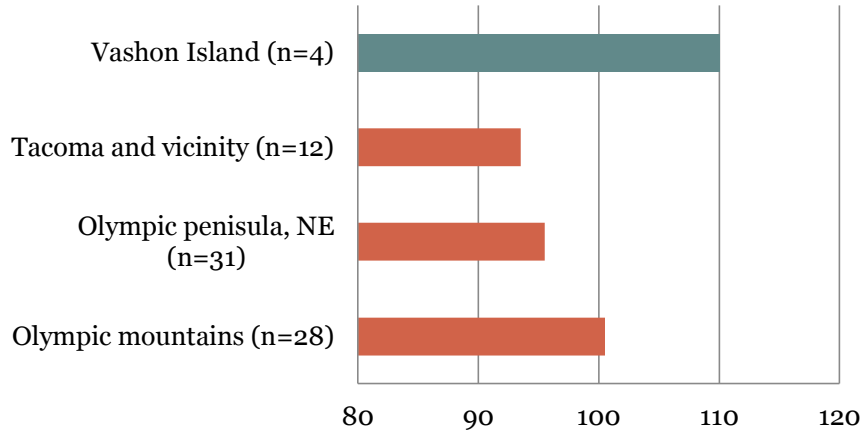
***Microtus townsendii* is larger than *M. oregoni***

## Comparison of Vashon Species

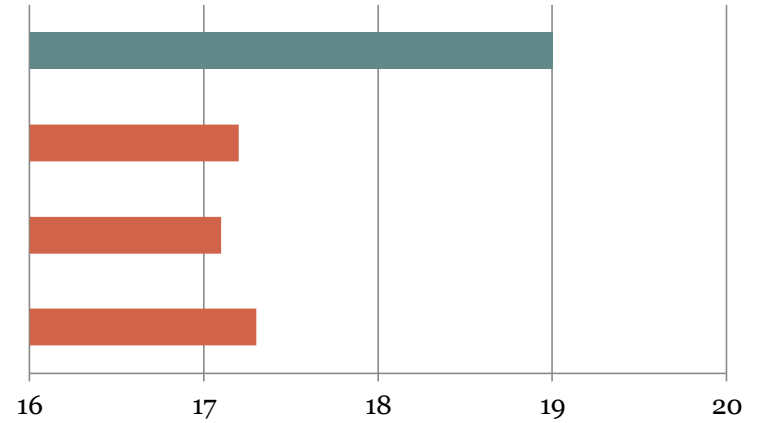


# ***Microtus oregoni* from Vashon are consistently larger when compared to other locations**

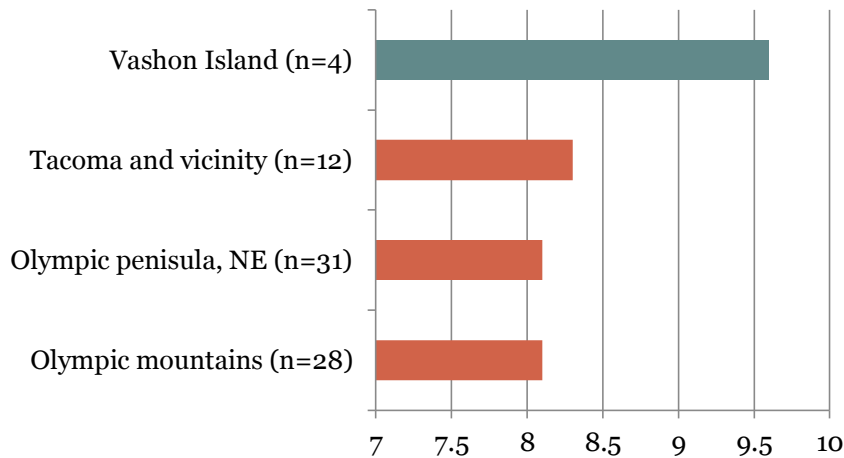
## **Mean head and body length (mm)**



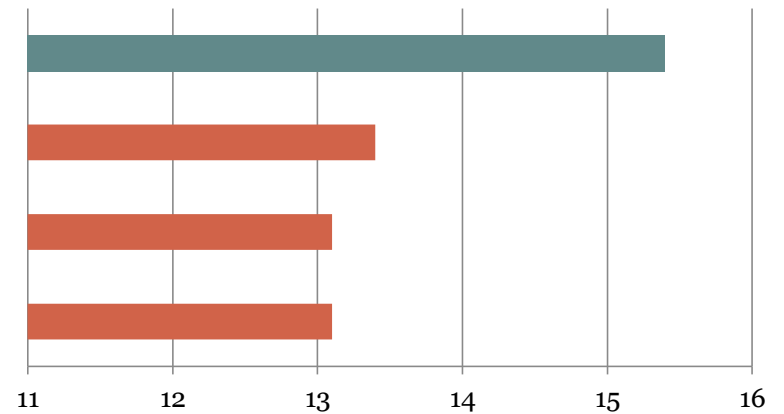
## **Mean Hind foot length**



## **Mean height of skull (mm)**



## **Mean Zygomatic breadth-adult only**



# Comparison of adults, juveniles, and localities



**ADULT**

**JUVENILE**

Top to bottom: *M. townsendii*, *M. oregoni* (Vashon), *M. oregoni* (other)

# Conclusions and Next Steps



- Morphological measurements clearly indicate that *M. oregoni* of Vashon island are larger than those of other regions
- Need for higher sample size and DNA testing to further explore whether morphological differences indicate a unique subspecies
- Implications for island biogeography (i.e. gigantism in isolated populations)



# Collaborators in further research:



Vashon  
Nature  
Center LLC



Did your cat get a vole? Contact for pick up: [info@vashonnaturecenter.org](mailto:info@vashonnaturecenter.org)