

# What The Bones Tell Us:

## A Biological Anthropology Report on the Australian Aboriginal Collection at the American Museum of Natural History

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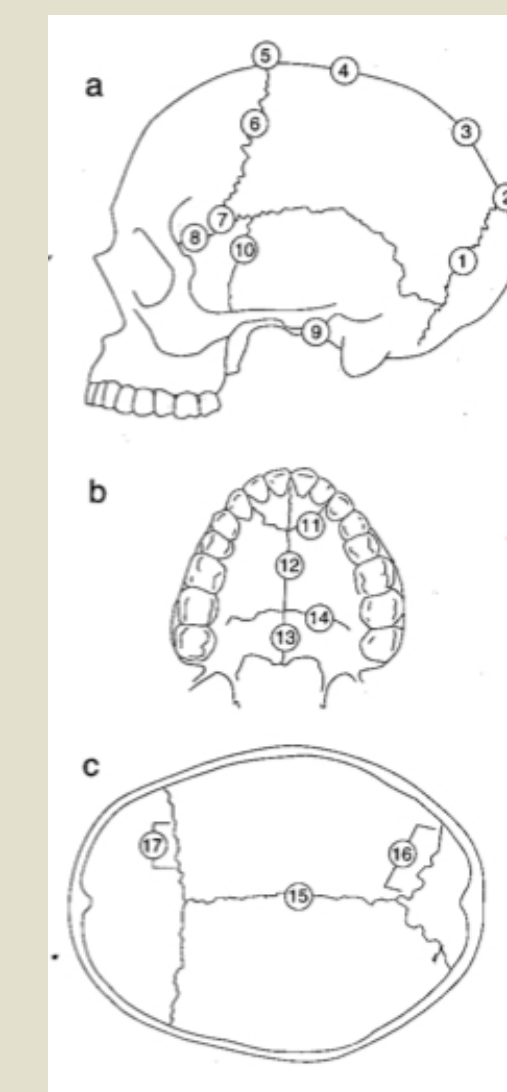
### Introduction

For our data collection project, we determined the age, sex, pathology and stature of the osteological remains of 60 Australian Aborigines. These remains were collected during the 1870s-90s from territories spanning almost the entirety of Australia. If these remains had been collected on an expedition instead of being bought or donated, more information about them most likely would have been provided.

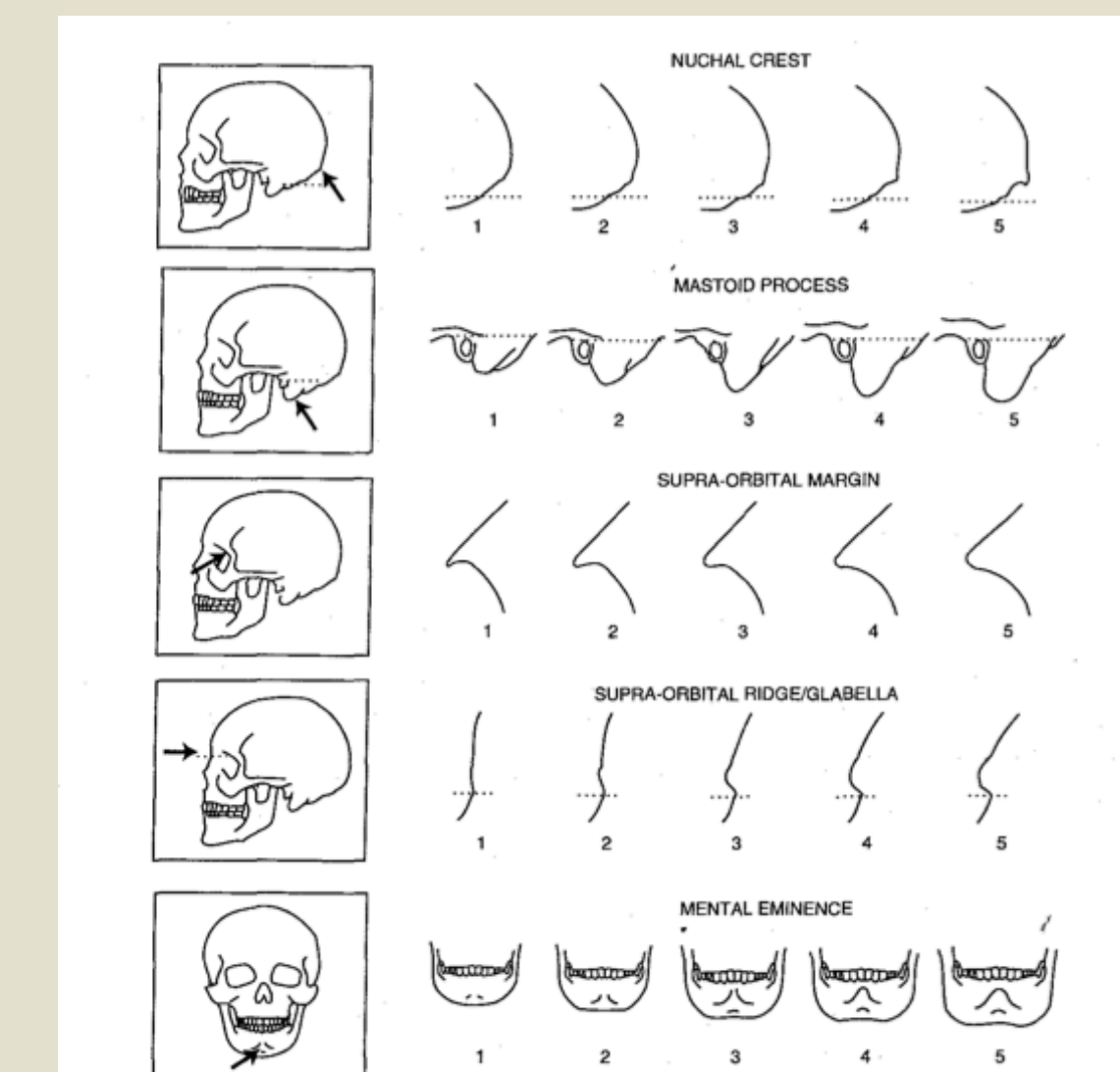
### Pathology

A portion of our project involved observing the pathology, or evidence of injury, disease, and various medical conditions of the remains. We found evidence of syphilis, enamel hypoplasia (indicative of poor nutrition), periodontal (gum) disease, osteoporosis, caries (cavities), infections, spina bifida, trauma, trepanation, arthritis, aveolar resorption and inca/wormian bones.

### Methods



Determination of Age at Death<sup>1</sup>



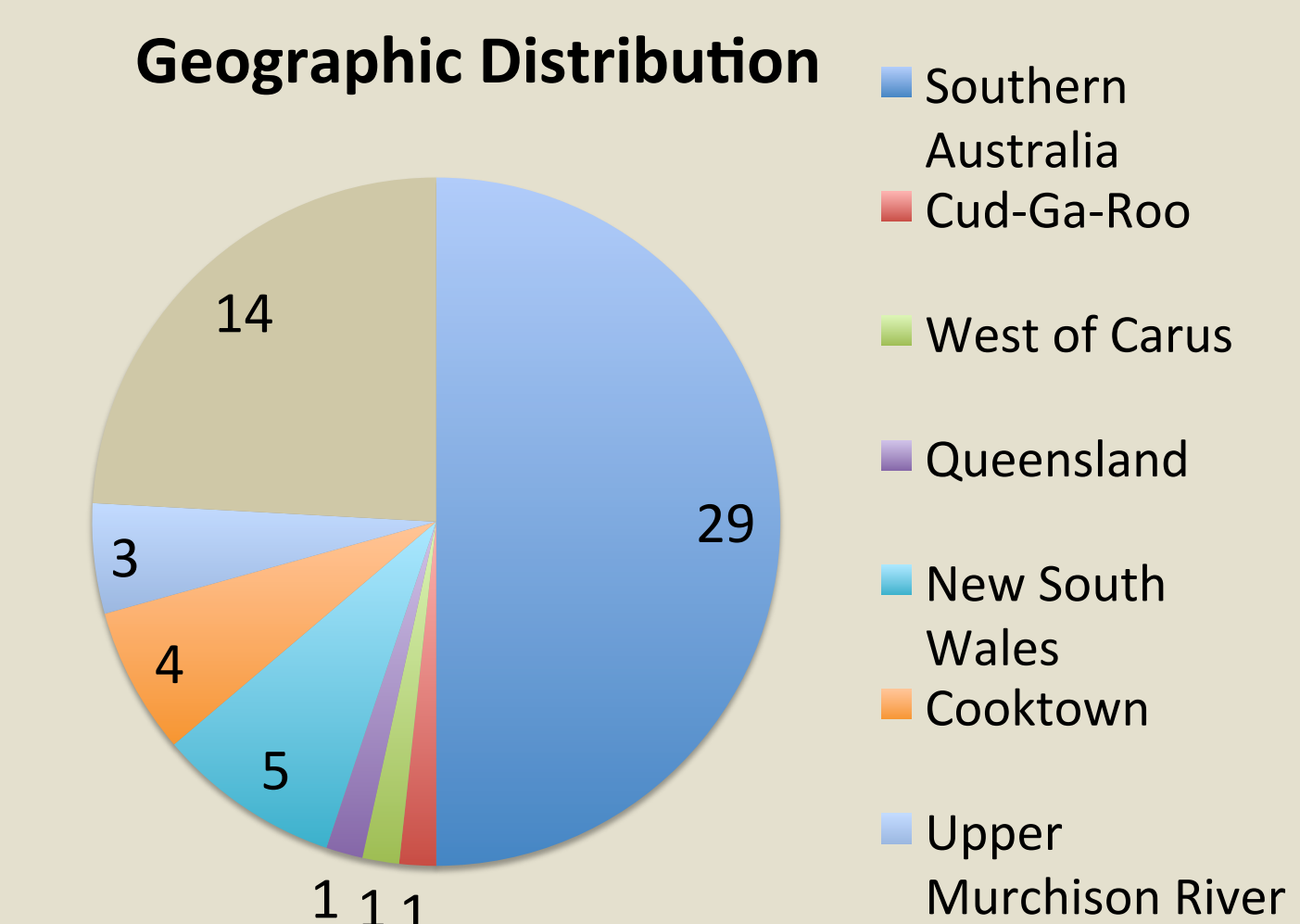
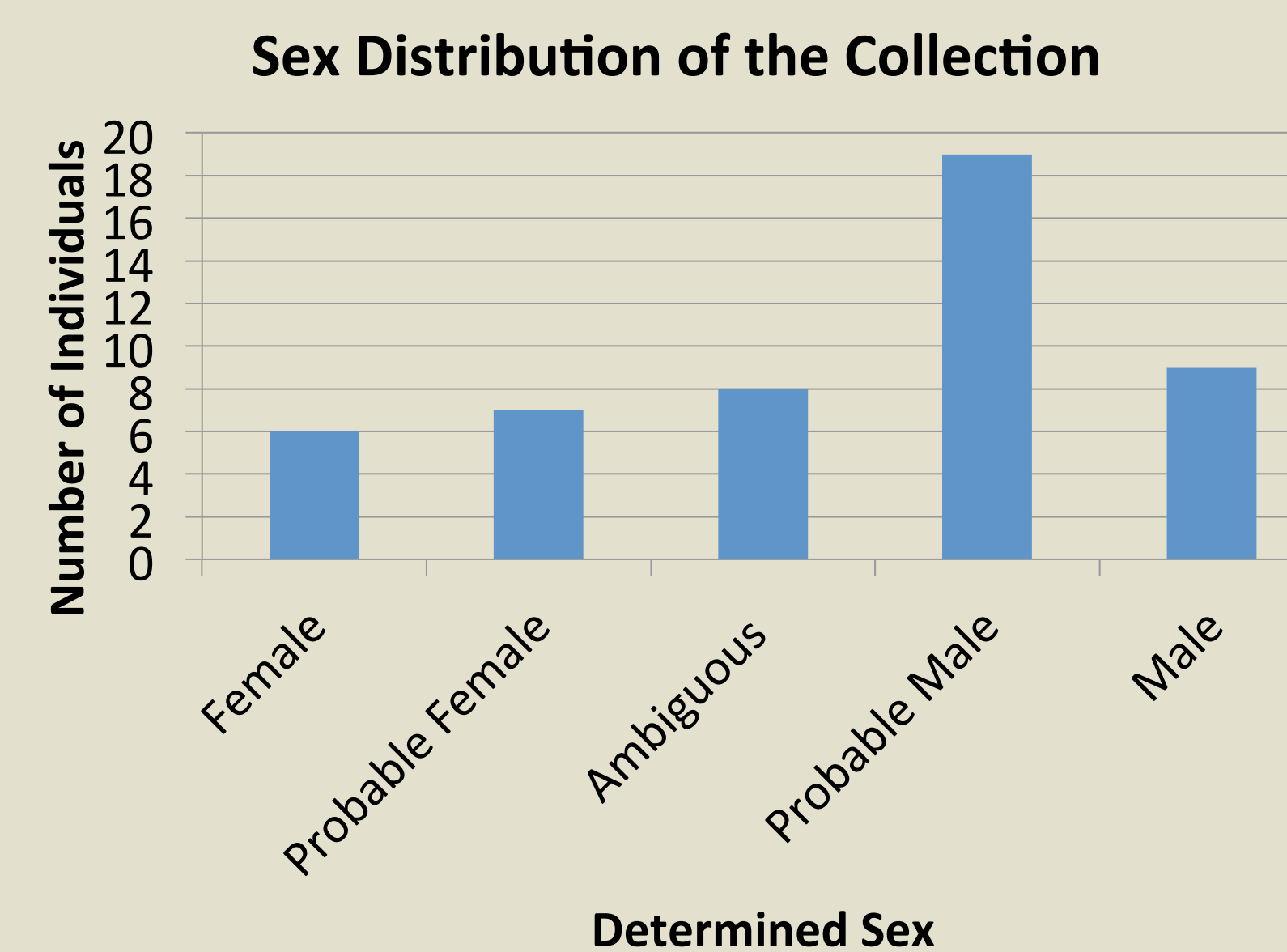
Determination of Sex<sup>1</sup>

Population/units	Femur	Tibia
Polynesian (mm)	Right side: H=2.137F - 5.184S + 830.7 Left side: H=2.176F - 4.528S + 796.8	Right side : H=2.210T - 5.247S + 978.6 Left side: H=2.077T - 5.602S + 1029.6
White (cm)	Males: H=2.38F + 61.41 +/- 3.27 Females: H=2.47F + 73.56 +/- 3.8	N/A
Black (cm)	Males: H=2.11F + 70.35 +/- 3.94 Females: H=2.28F + 59.76 +/- 3.41	N/A

Legend:  
F: Maximum femur length  
T: Maximum tibia length  
H: Stature  
S: sex (10=male 20= female)

Determination of Stature<sup>2,3</sup>

### Results



Determined Age Range	Number of Individuals
3 (+/- 1)	1
4 (+/- 1)	1
10 (+/- 2.5)	1
15 (+/- 3)	2
34.7-43.4	1
34.7-45.5	2
34.7-51.9	1
39.4-45.5	2
39.4-51.9	3
39.4-56.2	5
45.2-51.9	2
45.2-56.2	10
48.8-56.2	9
51.5-56.2	6
56.2+	3



Trepanation



Aveolar Resorption



Inca/ Wormian Bones



Spina Bifida

### Acknowledgements

We would like to thank our mentor, Gisselle Garcia, the National Science Foundation and the American Museum of Natural History for this incredible opportunity.

### References

1. Buikstra, J. E., & Ubelaker, D. H. (1994). Standards for data collection from human skeletal remains.
2. Houghton, P., Leach, B. F., & Sutton, D. G. (1975). The estimation of stature of prehistoric Polynesians in New Zealand. *The Journal of the Polynesian Society*, 84(3), 325-336.
3. Trotter M., (1970) Estimation of stature from intact long bones. In: T.D. Stewart (Ed.) *Personal Identification in Mass Disasters*. Pp. 71-83. Washington, D.C: Smithsonian Institution Press.

### Discussion

The collection of 60 individuals contains 55 adults and 5 subadults (children). Postcranial (below the skull) remains were available for 9 adult individuals. We collected our results through the examination of the ectocranial sutures, sexually dimorphic cranial features, molar eruption and maximum femur lengths of the individuals. We found that the population had: a male majority (28 male, 13 female, 8 ambiguous), a most commonly occurring age-at-death of 48.2-56.2 years, an average stature of 5'4", and traces of several different kinds of medical conditions and trauma.