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A PALEOPATHOLOGICAL STUDY OF THE DANISH ATLANTIDE COLLECTION OF GUANCHE MUMMIES FROM THE CANARY ISLANDS

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Abstract. A collection of bones originating from Guanche Mummies was donated to the Danish Atlantide Expedition in 1945. This study focuses on the osteological examination, including assessment of sex and age, of these Guanche bones. Methods for age-estimation could be applied to eight of fourteen individuals including one subadult of 17 years and seven adults of 23-45 years. One skull was found with a metopic suture and signs of healed periostitis were found on multiple long bones. In conclusion our study on age, non-metrical traits and pathology reflects previous findings in the Guanche population.

Keywords. Guanche Mummies. Human osteology. Ethics.

INTRODUCTION

The Guanche are considered the aboriginal population of the Canary Islands. There has been much research done on Guanche remains (Rodríguez Martín & Martín Oval, 2009). As all mummies, the extant remains are important for continued scientific research, investigations and exhibits. Pursuant to this, it is also im-

portant to document and register, when such remains are found outside the Canary Islands / Spain. Here we present a collection of bones originating from Guanche Mummies. These bones were donated in 1945 to the Danish Atlantide Expedition. Documentation is very sparse, and it is the hope that this presentation adds to the general information on existing Guanche human remains.

The Danish Atlantide expedition, was a scientific expedition under the auspices of the University of Copenhagen Natural Sciences Museum. It marked the re-opening of seafaring and scientific expeditions after the Second World War. A Danish sculptor, who had inherited a large fortune, and thus able to acquire the grand sailing yacht (Fig. 1), lent the yacht free-of-charge to the expedition (incidentally, the yacht had been hidden during the German occupation of Denmark as it was rumored that the German Fieldmarshal Göring was on the look-out for it). The expedition had as a goal to sail down the West coast of Africa while gathering specimens for the Natural Science Museum. On the way to Africa the yacht passed Tenerife, and although we have no specific notes on this, it seems that it was at this moment that the scientists were presented with a "gift" of Guanche bones by a doctor Jenez Tacoronte of Tenerife. Upon the return, the box of bones ultimately found their way to our collections. We have been unable to find any further documentation regarding the "gift", nor any data on the doctor.

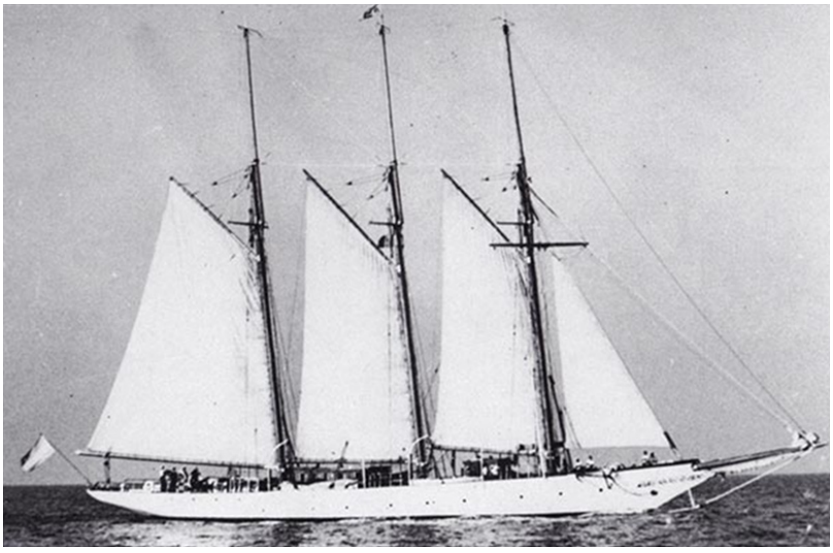

Fig. 1. The Atlantide yacht used for the Atlantide expedition.

MATERIAL AND METHODS

The bones analyzed were stored a wooden box. The box was simply marked "Guanche mummy bones", with a small note in the box, indicating, as written above, that the bones were a gift from Dr Jenez Tacoronte.

The box contained 76 single bones (Fig. 2). Sex- and age-assessment of the single bones followed guidelines by Walker (2008), Bruzek (2002), Meindl & Lovejoy (1985), Buckberry & Chamberlain (2002), Suchey-Brooks staging of the pubic

Fig. 2. The bones taken out of the box.

symphysis (1990) and additional experience-based age assessment of femoral and coxal bones (Adbou, 2015). These results were combined with osteometric data and an evaluation of robustness and symmetry of the bones in order to estimate the possible number of individuals represented in the collection.

Aside age and sex assessement the bones were also assessed for pathologic changes, following Buikstra (2019).

RESULTS AND DISCUSSION

Four skulls and one larger skull fragment were present in the collection (four females, one male). The bone preservation varied from smaller fragments to robust well-preserved bones, which may influence the results. As a result of the preservation state not all qualitative variables for age estimation were applicable.

The 76 bones represent a minimum number of seven and more likely fourteen individuals in total; of which six were female, five male and three of undetermined sex (Table I). The methods for age estimation were applicable only on eight of the fourteen individuals, where two individuals were of 23-30 years, two individuals of 30-35 years, one individual of 30-38 years, one individual of 35-40 years and one individual of 40-45 years (see Table I for full results). One individual is considered a subadult of approximately 17 years based on an uncomplete epiphyseal fusion of the ischial epiphysis and of the lesser trochanter (Cunningham et al., 2016). In addition, this individual had only commencing eruption of the mandibular third molars (male) as seen for individuals of 16.5-18.5 years (AlQahtani, 2009).

According to Rodríguez Martín & Martín Oval (2009) the average life expectancy of the Guanche people was around 31 years, which is also likely for a number of individuals in this collection. As we compared the assessed age-intervals to age-related changes on longbones and joint-surfaces in the collection, the age at death for all assessible individuals, except for the subadult, was more likely between 23-45 years with accumulation of people in their twenties to mid-thirties (5 out of 7 adult individuals) (Adbou, 2015).

A variety of non-metrical and pathological conditions were represented in the material.

Skull I was diagnosed with a metopic suture (Fig. 3); a trait which has also been observed in 13,4% of skulls in a study of Guanche mummies by Rodríguez Martín and Martín Oval in *Una Historia Bioantropológica*, 2009; a feature which is more

Table 1. Distribution of sex and age of individuals represented in the collection (named individual 1 to 14)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Sex of skull (Buikstra & Ubelaker)	F	F	F	F	M									
Sex mandible						Not intact + AM toothloss	Not intact							
Sex coxal bone (Bruzek)		F		F			M		M	M	M			
Maximum diameter caput femoris (mm)	34.59 (R)	37.48 (R) 38.88 (L)	42.81 (R) 43.73 (L)					34.09 (R)				44.24 (R)		
Age of skull (Meindl & Lovejoy)	39.4-51.9	39.4-45.5	45.2-45.5	45.2-51.9	fragment									
Age of coxal bone (Buckberry & Chamberlain)		21-38		16-65			16-65		16-65	16-19	16-19		III	VI
Age of pubic symphysis (Brooks & Suchey)				23-57						19-34	19-34			
Epiphyses							17							
Tooth eruption							16,5-18,5							
Experience based age estimation (ADBOU)	30-35	33-38	35-40	40-45					30-35	23-30	23-30			
Final sex-estimate	F	F	F	F	M	F	M	F	M	M	M	?	?	?
Final age-estimate (years)	30-35	30-38	35-40	40-45	–	–	17	–	30-35	23-30	23-30	–	–	–
TOTAL	14 INDIVIDUALS: 6 FEMALES, 5 MALES AND 3 OF INDETERMINABLE SEX.													

frequent in the southern part of Tenerife. Skull I had a Wormian bone around the lambdoid suture (Fig. 4.) and was characterized by complete antemortem maxillary tooth loss.

Of the eight humeri in the collection, two had a supratrochlear foramen (25%), which is consistent with the most observed postcranial variation of 23,3% as described by Rodriguez Martín and Martín Oval, 2009.

Signs of healed periostitis and inflammation were present in multiple longbones and in one female coxal bone we also found osteoporotic changes. A left ulna had osteophytes around the trochlear notch, was porous and had eburnation which indicates degenerative arthritis. One right tibia was found with a non-fused diaphyseal fracture and two related fibulae (R and L) had new bone formation, on the right fibula at the same level as the tibial fracture (Fig. 5).

CONCLUSION

Our study of the 76 single bones confirm previous findings on the population (Rodríguez Martín & Martín Oval, 2009). The estimated age ranges are consistent with a life expectancy of approximately 30 years in the Guanche population, although some individuals showed age-related changes to bone and joint-surfaces consistent with a

Fig. 3. Skull with metopic suture.

Fig. 4. Skull with wormian bone at lambdoid suture.

longer lifespan, and our study on non-metrical traits and pathology also reflects previous findings in the population (Rodríguez Martín & Martín Oval, 2009).

Our analyses of these bones also highlights the problems, both in terms of scientific usefulness as well as ethically, of such "gifts". In earlier times, natural scientists would donate specimens to each other, most often in the interest of furtherance of science, and the dissemination of knowledge. This has occurred also with human skeletal material, and there are many osteological collections which house specimens gifted to them. However, today it is difficult to properly utilize such materials, unless find descriptions, archaeology, dating, etc. is present. Even more so, there are ethical dimensions, which have rightly come more to the forefront of modern archaeology and anthropology.

Fig. 5. Non-fused diaphyseal fracture and new bone formation on fibula.

In the case of the Guanche mummy bones in Denmark, donated under uncertain circumstances, we hereby document the finds, and hope that this may add to the Canary Island's proper museum authorities' inventories of such materials.

LITTERATURE CITED

ADBOU (2015). Human Osteological Methods

ALQAHTANI, S.J. (2009). Atlas of Human Tooth Development and Eruption. Queen Mary, University of London.

BROOKS, S. & SUCHEY, J.M. (1990). Skeletal age determination based on the os pubis: A comparison of the Acsádi-Nemeskéri and Suchey-Brooks methods. *Human Evolution*, vol. 5, Issue 3: 227-238.

BRUZEK, J. (2002). A method for visual determination of sex, using the human hip bone. *American Journal of Physical Anthropology*, vol. 17, issue 2: 157-168.

BUCKBERRY, J.L. & CHAMBERLAIN, A.T. (2002). Age estimation from the auricular surface of the ilium: A revised method. *American Journal of Physical Anthropology*, vol. 119, issue 3: 231-239.

CUNNINGHAM, C., SCHEUER, L. & BLACK, S.M. (2016) *Developmental juvenile osteology*. Academic Press.

MEINDL, R.S. & LOVEJOY, C.O. (1985). Ectocranial suture closure: A revised method for the determination of skeletal age at death based on the lateral-anterior sutures. *American Journal of Physical Anthropology*, vol. 68, issue 1: 57-66.

RODRÍGUEZ-MARTÍN, C. & MARTIN-OVAL, M. (2009). *Guanches. Una historia bioantropológica*. Canarias Arqueológica Monografía 4. Santa Cruz de Tenerife, Organismo Autónomo de Museos y Centros.

WALKER, P.L. (2008). Sexing skulls using discriminant function analysis of visually assessed traits. *American Journal of Physical Anthropology*, vol. 136, issue 1: 39-50.