

Osteometric analysis of scapula and humerus for *Rangifer tarandus* and *Cervus elaphus*: A contribution to the discrimination Late Pleistocene cervids

Jone Castaños, Pedro Castaños, Xabier Murelaga, Ainhoa Alonso-Olazabal, Luis Angel Ortega, and Maria Cruz Zuluaga

Acta Palaeontologica Polonica 59 (4), 2014: 779-786 doi: <http://dx.doi.org/10.4202/app.2012.0027>

Fossil remains of reindeer (*Rangifer tarandus*) occurring outside their present range are an important indicator of formerly cold climatic conditions, but are easily confused with those of the red deer (*Cervus elaphus*). The locality of Kiputz IX has yielded one of the best-preserved Late Pleistocene reindeer populations of the southern Pyrenees, occurring in association with *Bison priscus* and the much more abundant *Cervus elaphus*. Fossil remains from this site are mostly complete and not affected by human intervention, thus creating the perfect conditions for reliable osteometric analyses. Here, we quantify diagnostic morphological features of the scapula and the humerus of *Cervus elaphus* and *Rangifer tarandus* to establish the potential of these bones to aid in interspecific discrimination. In the case of the scapula, the best species discriminator is the ratio of the minimum anteroposterior diameter of the scapular neck and the development of the articular process, while the breadth of the trochlea is the best discriminator in the case of the humerus.

Key words: Mammalia, *Rangifer tarandus*, *Cervus elaphus*, scapula, humerus, osteometric data, Pleistocene, southern Pyrenees.

Jone Castaños [jcastanosdlf@yahoo.es] and Xabier Murelaga [xabier.murelaga@ehu.es], Departamento de Estratigrafía y Paleontología, Facultad de Ciencia y Tecnología, Universidad del País Vasco/Euskal Herriko Unibertsitatea, UPV/EHU, Apdo. 644, E-48080 Bilbao, Spain; Pedro Castaños [pedrocastanos@yahoo.es], Sociedad de Ciencias Aranzadi, Geo-Q, E-48940 Leioa, Spain; Ainhoa Alonso-Olazabal [ainhoa.alonso@ehu.es], Luis Angel Ortega [luis.ortega@ehu.es] and Maria Cruz Zuluaga [macruz.zuluaga@ehu.es], Departamento de Mineralogía y Petrología, Facultad de Ciencia y Tecnología, Universidad del País Vasco/Euskal Herriko Unibertsitatea, UPV/EHU, Apdo. 644, E-48080 Bilbao, Spain.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(487.8 kB\)](#) |

 [Supplementary file \(6,052.5 kB\)](#)