

THE SUPRATROCHLEAR FORAMEN IN DOGS AND IBERIAN WOLVES HUMERI: TO HAVE OR NOT TO HAVE

Joana Catita^{1,2,3,✉}, Mariana Batista^{1,2,3}, Eduardo Marcelino^{1,2,3}, Giovana Braga¹, Brunna Ciobanu¹, Maria Soares^{2,3,4}, Cleia Detry⁵, Sónia Gabriel^{5,6,7}, Dulce Ferreira⁶, Ana Elisabete Pires^{1,6,7}

The supratrochlear foramen (STF) is an anatomical feature of the canine humeri, that communicates the radial and olecranon fossae and may or may not be present.

Aims: to describe STF prevalence and morphometry in different sized humeri from dogs and Iberian wolves.

Materials and Methods: Unpaired humeri from 52 dogs and 70 Iberian wolves were measured twice by two independent observers, using a digital caliper. These materials integrate the osteological collections available at LARC-DGPC and MUHNAC-ULISBOA. **Dog humeri** were categorized into small (≤ 10 cm) and medium/large (10,3-22,3cm) according to its maximum length; **Wolf humeri** length ranged between 18,0-22,8cm.



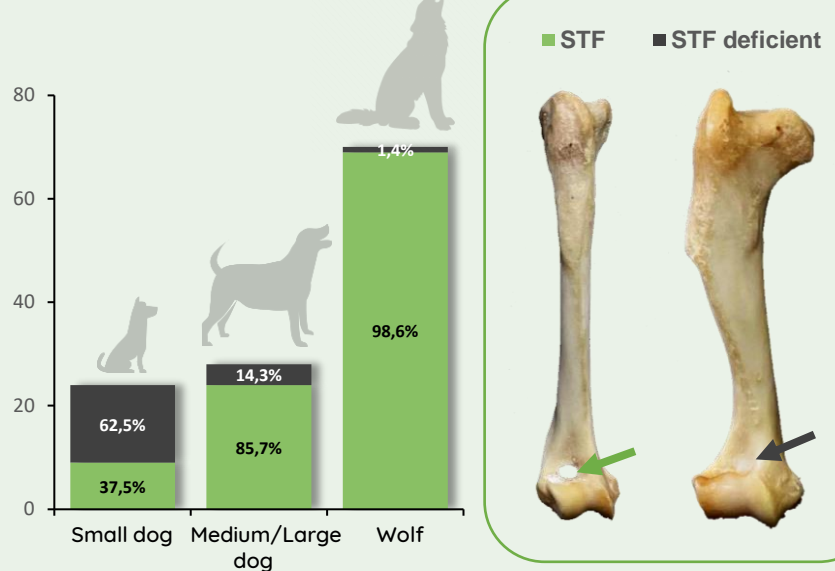
Results:

- **STF deficiency:** 62,5% (15 of 24) of small dog humeri and 14,3% (4 of 28) of medium/large dog humeri were STF deficient, and only 1,4% of wolf humeri (1 of 70) didn't exhibit STF.
- **STF presence:** When present, STF longitudinal and transverse lengths were inferior in small dogs humeri ($3,23 \pm 1,61$ mm and $3,63 \pm 1,58$ mm) compared to medium/large dogs ($5,24 \pm 2,37$ mm and $6,20 \pm 2,18$ mm), and the ratio between both lengths was similar in small ($1,17 \pm 0,18$ mm) and medium/large ($1,25 \pm 0,23$ mm) humeri.
- **STF across species:** In wolves, STF longitudinal and transverse mean length was $9,90 \pm 1,94$ mm and $10,73 \pm 1,55$ mm, respectively. In dogs (76%; 25 of 33) and wolves (65%; 45 of 69) an oval-shape STF, with a longer transversal axis, was more common than round-shape.
- **STF anatomical position:** STF margin distance to the medial epicondyle was greater than the distance to the lateral epicondyle in small dog ($11,62 \pm 1,66$ mm vs $7,93 \pm 1,59$ mm), medium/large dog ($21,02 \pm 6,29$ mm vs $13,88 \pm 3,76$ mm) and wolf humeri ($23,63 \pm 2,14$ mm vs $13,96 \pm 1,46$ mm).

FUNDING: 22/23 Exploratory project grant (SupT-Dog) by FMV-ULusófona

ACKNOWLEDGEMENTS: PRISC (Portuguese Research Infrastructure of Scientific Collections). Sistema de Monitorização de Lobos Mortos (SMLM) Instituto da Conservação da Natureza e das Florestas, I.P.

STF PREVALENCE



Conclusions:

- STF occurrence and size is variable in dogs and wolves.
- Dogs: small humeri displayed STF deficiency or small size STF more frequently than medium/large humeri.
- Iberian wolf: STF absence was rare and less variable in size.
- The most frequent shape of STF was oval and it was closer to the lateral epicondyle, where canine humeral condylar fractures are predominant.