







## First Osteometric Study of Sheep Skulls (*Ovis aries*, L. 1758): Ouled Djellal Breed (Algeria)



Tekkouk-Zemmouchi F.<sup>1</sup>, Ami K.<sup>1</sup>, Benhamza L.<sup>1</sup>, Altoama K.<sup>2</sup>, Bouaziz O.<sup>1</sup>, Adamou A.<sup>3</sup>, Babelhadj B.<sup>3</sup>, Brerhi E.H.<sup>1</sup>, Thorin C.<sup>4</sup>, Ridouh R.<sup>1</sup>, Betti E.<sup>2</sup>, Desfontis J.-C.<sup>5</sup> and Guintard C.<sup>2</sup>

1 : Université Constantine 1, Institut des Sciences vétérinaires, laboratoire de « Gestion de la santé et productions animales » ; El Khroub, Algérie, [tekkouk@yahoo.fr](mailto:tekkouk@yahoo.fr)  
 2 : Unité d'Anatomie Comparée, Ecole Nationale Vétérinaire, Agroalimentaire et de l'Alimentation, Nantes Atlantique - ONIRIS, route de Gachet, CS 40706, 44307 Nantes Cedex 03, France, [claud.guintard@oniris-nantes.fr](mailto:claud.guintard@oniris-nantes.fr)  
 3 : Unité de Recherche sur le camelin, Laboratoire de recherche « Protection des Ecosystèmes en Zones Arides et Semi-Arides », Université Kasdi Merbah, Ouargla, Algérie, [adamou.ab@univ-ouargla.dz](mailto:adamou.ab@univ-ouargla.dz)  
 4 : Unité PAF – laboratoire de Statistiques, Ecole Nationale Vétérinaire, Agroalimentaire et de l'Alimentation, Nantes Atlantique - ONIRIS, route de Gachet, CS 40706, 44307 Nantes Cedex 03, France, [chantal.thorn@oniris-nantes.fr](mailto:chantal.thorn@oniris-nantes.fr)  
 5 : UPSP 5304, Physiopathologie Animale et Pharmacologie Fonctionnelle, Ecole Nationale Vétérinaire, Agroalimentaire et de l'Alimentation, Nantes Atlantique - ONIRIS, route de Gachet, CS 40706, 44307 Nantes Cedex 03, France, [jean-claude.desfontis@oniris-nantes.fr](mailto:jean-claude.desfontis@oniris-nantes.fr)  
 CLUJ NAPOCA (Romania), 30<sup>th</sup> EAVA Congress, 23-26<sup>th</sup> July 2014.

**Introduction**

The native Algerian sheep breed (Ouled Djellal) has been very little studied and this study aims to achieve for the first time an osteomorphometric approach of skull bones. A previous study of the metapodial bones of this breed was published (Guintard C. and Tekkouk-Zemmouchi F., 2010), but the morphometry of the skull is unknown.

**Material**

30 sheep skulls were sampled (15 males and 15 females aged from less than one year to more than 8 years old).




**Methods**

For each animal, age and sex were recorded. Once prepared by boiling, each skull was measured (24 linear measurements) and 4 indices were calculated. For the dorsal part of the skull (and the mandible), 7 (1) measurements of width were performed, 7 (3) of length and 2 (4) of height.

**Results**

Sexual dimorphism is much more relevant on height (8% more for males than for females) and width (5.5% more for males than for females) measurements (and on the indexes calculated with these parameters) than on the length (2% more for males than for females) of the skull.

Comparing the Ouled Djellal skulls to a previous study on 10 recent breeds (Guintard C. and Fouché S., 2008), with  $CB19 = f(CL10)$ , we can conclude that this breed is placed into the variability of the “rustic breeds” group.

**Conclusion**

These preliminary results must be confirmed by further analysis. A publication of these first results will be proposed next year to a scientific review.

**Bibliography:** Guintard C. and Tekkouk-Zemmouchi F., 2010: *Rev. Méd. Vét.* **161**, 521-531.  
 Guintard C. and Fouché S., 2008: *Rev. Méd. Vét.* **159**, 603-617.

*Acknowledgements: The authors are grateful to M. BRIDOU, N. LAKHDARA and I. NICHOLSON, for their precious help in the making of this poster.*


