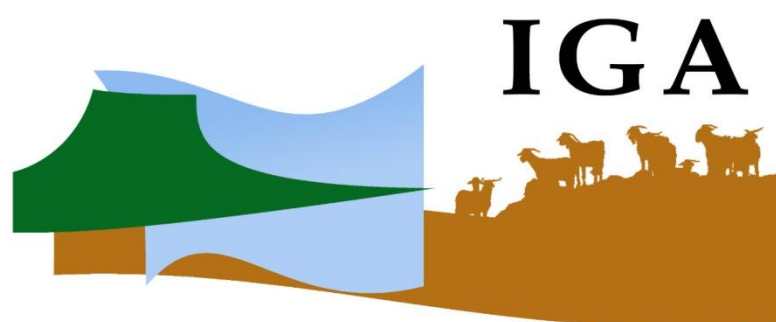


BOOK OF ABSTRACTS

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Geometric morphometric study in a goat pure breed

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The aim of this study is to assess which bony skull parts are related to the shape variation in goat skull, since this species presents a high degree of variability in head morphology. A sample of 24 skulls belonging to adult “White Rasquera” goats (all teeth erupted) stored at a private collection of one of the authors (JS) was analysed using 2D geometric morphometric procedures. The dorsal view of each skull was photographed using a standard procedure through a digital camera Nikkor 28-80 mm® telephoto lens. Pieces were photographed once. Fifteen landmarks were collected. These landmarks represented the approximate topology of the skull. Three replicas were performed independently by each author. Error of measurements was also evaluated with an Intraclass Correlation Test showing an excellent replicability ($c = 0.9992$ and 0.9987 for X and Y coordinates respectively, $P < 0.0001$). Size was estimated after a Procrustes superimposition using the Thin Plate Spline method. Between-sample shape differences were visualized by superimposing landmarks of consensus specimens. The figure shows the landmark deviation from the type sample. Direction of landmarks deviations do not differ in the samples, e.g. intrasample variation does not involve different landmarks. Relative contribution of landmarks 6, 7, 13 and 14 are higher so the difference in shape is centred at the maxillary area. As all animals were adults, the variation of this morphogenetic unit must be also seen as not related to an ontogenic change. This general trend of shape changes indicates that animals differ for relative lengthening of the viscerocranium rather than for their relative width. The inclusion of this easily done type of study in a breed description might provide more information on morphological and functional characteristics of an animal population.