3D segmentation of the brain of the domestic goat (*Capra hircus domestica*): Comparative white matter, grey matter, and subcortical volumes

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Over the last 10 years there has been increasing interest in the cognitive abilities of domestic species. Domestic goats have received much attention given their remarkable abilities to read human communicative cues which parallel observations also seen for other domestic species such as dogs. This shared behavioral trait is suggestive of a convergence in morphology between the domestic Artiodactyla and Canidae. Using high resolution magnetic resonance imaging aimed at providing much needed quantitative insight to these behavioral observations, we quantified select cortical and subcortical structures in the goat brain. Scanning was performed on one postmortem brain specimen and resultant white matter; grey matter and subcortical limbic structures were manually segmented before being compared through allometric analyses with published mammalian data.