

Morphometric dataset of *Varanus salvator* for non-invasive sex identification using machine learning

ABSTRACT

Reliable sex identification in *Varanus salvator* traditionally relied on invasive methods like genetic analysis or dissection, as less invasive techniques such as hemipenes inversion are unreliable. Given the ecological importance of this species and skewed sex ratios in disturbed habitats, a dataset that allows ecologists or zoologists to study the sex determination of the lizard is crucial. We present a new dataset containing morphometric measurements of *V. salvator* individuals from the skin trade, with sex confirmed by dissection post-measurement. The dataset consists of a mixture of primary and secondary data such as weight, skull size, tail length, condition etc. and can be used in modelling studies for ecological and conservation research to monitor the sex ratio of this species. Validity was demonstrated by training and testing six machine learning models. This dataset has the potential to streamline sex determination, offering a non-invasive alternative to complement existing methods in *V. salvator* research, mitigating the need for invasive procedures