

Dear Prof. Evans

My name is Gerhard Steenkamp and I am a veterinarian working at the Veterinary Faculty of the University of Pretoria, Onderstepoort. My chosen field of interest is Dentistry and Maxillofacial Surgery for animals. My wife, a member of SADA, passes her SADJ to me every month and understandably I was very excited to see your monthly focus on 'The Wild Teeth of Africa'. The dental formulas you are publishing however do not show any references and hence the reader is not able to see where these were obtained from.

Personally I do not agree with the dental formulas you have published for the rhinoceros (September 2014) and the crocodile (October 2014).

Rhinos do not have incisors or canines.¹ They are herbivorous and will have no need for them. Maybe if they did have canines it could have helped them fight the poachers?

Crocodiles like cetaceans have unspecialised teeth and therefore they are called homodont.² There would be no reason for crocodiles to have teeth of a distinct variety (incisors, canines, premolars or molars). The readers of your journal will be very familiar how we classify bunodont teeth of humans into these different categories based on development and function. This will be superfluous in crocodilians as their teeth are merely adapted to grab hold of prey. Another interesting fact to your readers is that a crocodile continuously produce teeth throughout its life. For them to lose teeth would be life threatening. Would it not be wonderful if we could harness some of those genetics to give edentulous people functional teeth?

These two examples illustrate the very importance of comparative odontology when dealing with more than one species. As veterinarians we need to be aware of this as it does not only give us insight into what our potential patients need (eat) but also what the teeth are used for when faced with treating them. This helps us decide if we can/should save a tooth (or not) and by which means. Furthermore it also helps us understand the management of a patient post extractions and how their diet may have to be adapted.

Thank you for highlighting wildlife dentistry, not only is this my very vocation but indeed my passion.

With kind regards
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References

1. Hitchins P. (1978) Age determination of the black rhinoceros (*Diceros bicornis* Linn.) in Zululand. South African Journal of Wildlife Research. 8 :71 – 78
2. Ohazama A, Haworth KE, Ota MS, Khonsari RH, Sharpe PT. (2010) Ectoderm, endoderm, and the evolution of heterodont dentitions. Genesis. Jun;48(6):382-9. doi: 10.1002/dvg.20634.

