The use of ear tufts to assist in the identification of individual black rhinos

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Rhino managers use the identification of individuals to monitor the performance of their populations. Many features can be used to distinguish black rhino individuals from each other, such as distinctive horns, scars or a broken tail but tears and notches in ears are the most useful features (IUCN).

Where an individual has an obvious unique ear tear or notch pattern, possibly caused by crashing through thick bush or fighting off predators, it is called 'Identifiable'.

In the absence of natural ear markings, notches may be cut into the ear. This involves the capture and immobilisation of the individual so that one or more, usually "V"-shaped, cuts are made into the extremity of the ear to represent a number associated with the rhino. This operation is costly, invasive and stressful to the rhino, comes with some risk of mortality and may, from personal experience, affect the behaviour of the individual on release (i.e. can become more aggressive and/or more secretive). As such reasonable effort should be made to avoid unnecessary artificial notching.

Personal experience has demonstrated that basing identification on a single feature may lead to an incorrect result. It is appropriate to liken an identification to a jigsaw puzzle with the more pieces you put in place the clearer the picture.

One "piece of the puzzle" that should be considered, and which is not normally mentioned, is the use of ear tufts as a recognition feature.

In Kenya, one objective set for black rhino monitoring is to "maintain at least 60% of independent animals in each population, identifiable by all trained observers" (KWS 2012). For an individual rhino to be considered 'Identifiable', its distinguishing features must be obvious and of such a nature that all observers can record them. It should also be recognised as the same animal when seen at different times. Therefore, the more permanent an identification feature, the more useful it is.

Figures 1-4 show photographs of four rhinos from a population taken at different times over several years where ear tufts have been used to assist in individual identification. It can be seen that tufts can be a reliable identification feature. It is also clear from the photographs that, once established from around 12 months of age, such significant tufts can be as easily observed and as long-lasting as any other identification feature suggested.

If these tufts were not considered as identification features, the rhinos would have been classed as 'Clean' (a rhino which has no tears or notches on its ears, and no other distinctive identification features) so becoming candidates for invasive artificial notching.

The photographic evidence presented shows that significant ear tufts offer a robust feature for assisting in the individual identification of black rhinos.

References

Adcock K and Emslie R. (Compiled by) 2003. Monitoring African Rhino Trainer's Guide, Part of IUCN SSC AfRSG's 5th edition of "Sandwith's" Training Course for Field Rangers, unpublished.

Kenya Wildlife Service. 2012. Conservation and Management Strategy for the Black Rhino (D. b. michaeli) in Kenya, (2012–2016), 5th edition, Kenya Wildlife Service, Nairobi, Kenya, p.57. unpublished.

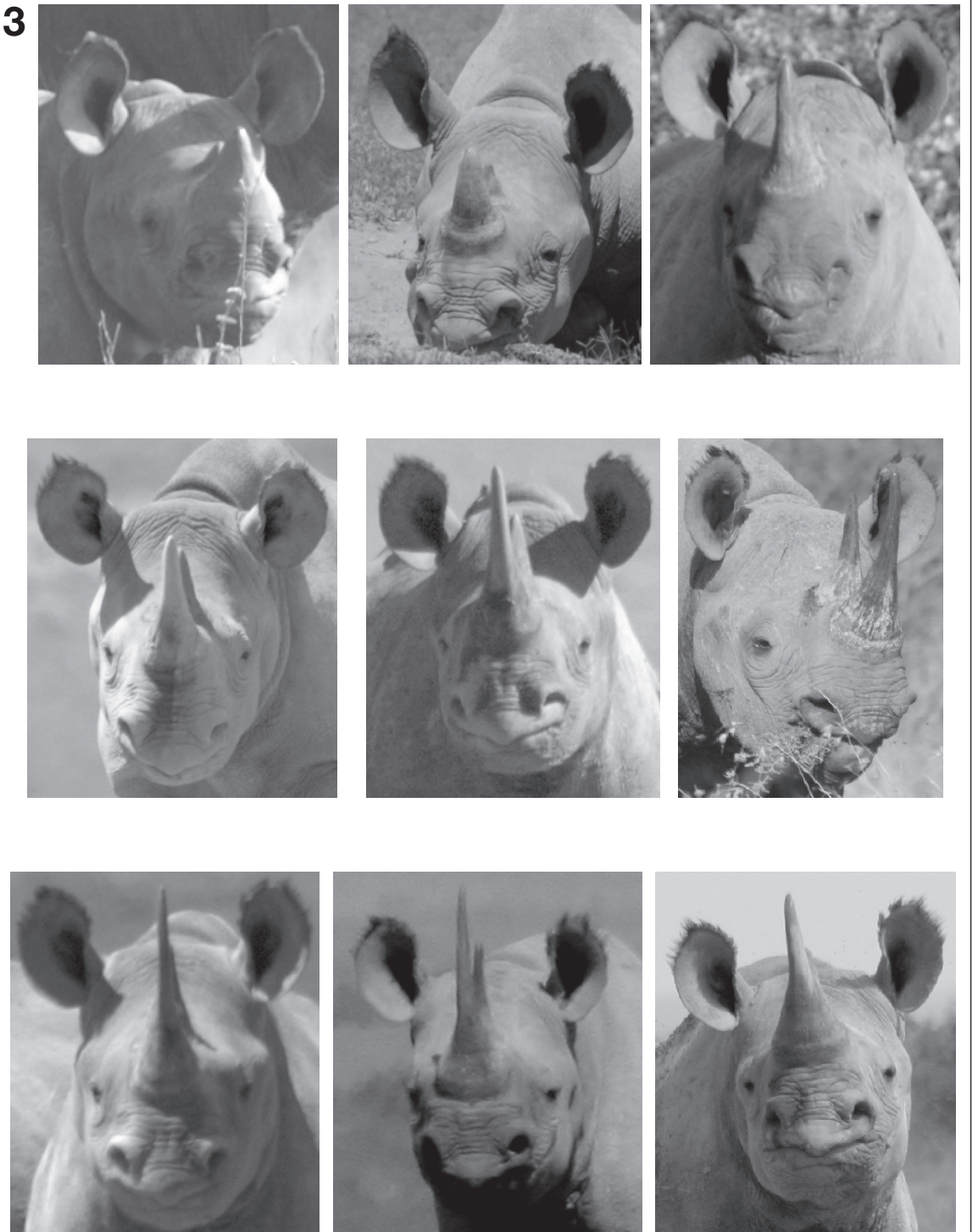Rhino 1 female born July 2011; photos from October 2012 to July 2016.

Rhino 2 male born October 2009; photos from August 2010 to July 2016.
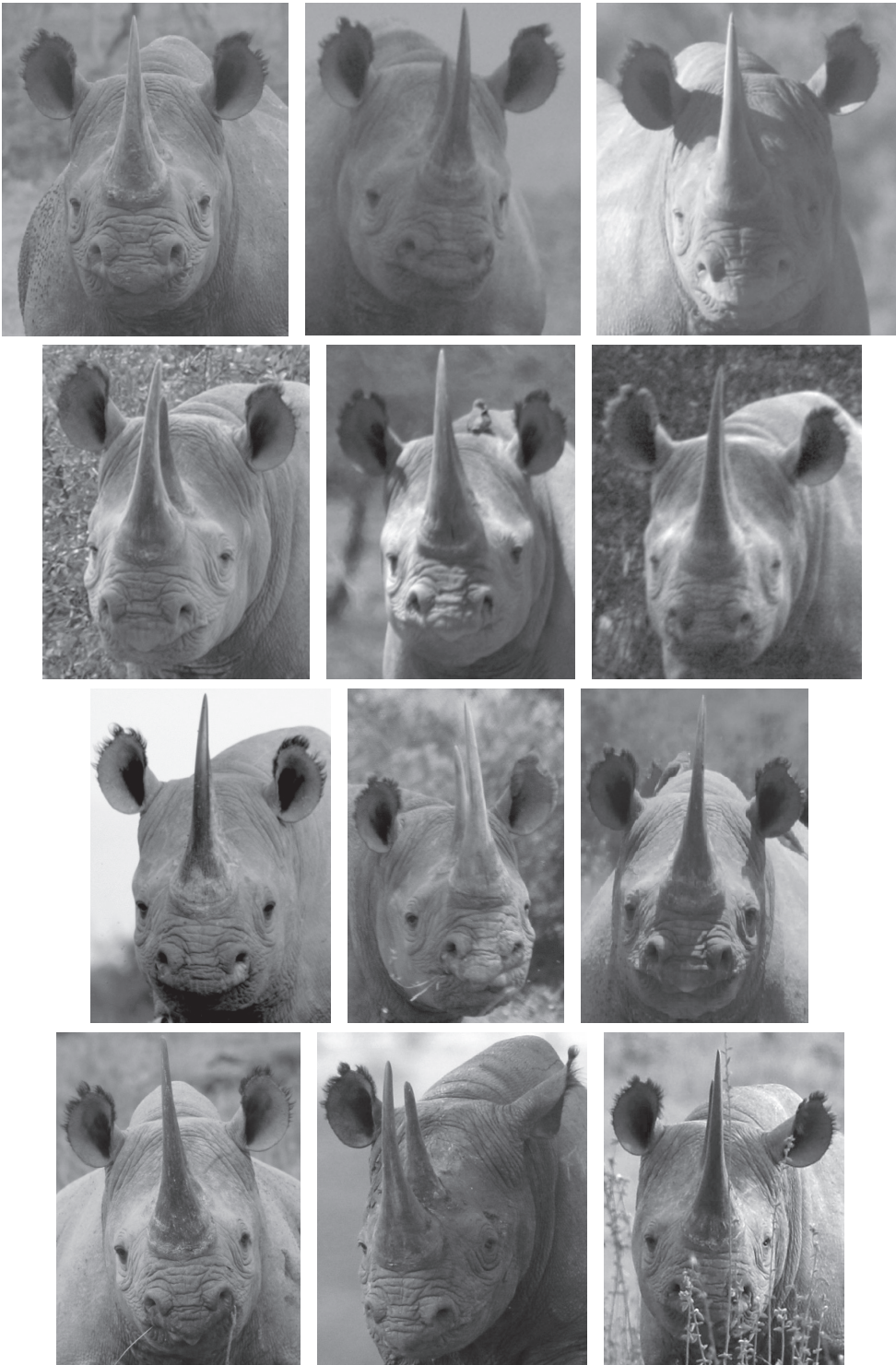
Figure 1 & 2. Photographs of rhino 1 female and rhino 2 male over a range of time showing ear tufts used as an identification feature.

Rhino 3 born June 2004; photos from March 2008 to January 2016.

Figure 3. Photographs of rhino 3 over a range of time showing ear tufts used as an identification feature.

Rhino 4 female estimated born 1991; first photo from September 2005 to July 2016.

Figure 4. Photographs of rhino 4 female over a range of time showing ear tufts used as an identification feature.