

Kent Academic Repository

Harvey-Carroll, Jessica, Carroll, Daire, Ingram, Daniel J., Connelly, Ellen, Montblanc, Marine, Vanassche, Julie, Simo, Franklin T., Mouafo, Alain D. T. and Hywood, Lisa (2025) *Trend or coincidence? The removal of pangolin tongues threatens rehabilitation efforts.* Oryx . ISSN 1365-3008.

Downloaded from

https://kar.kent.ac.uk/111554/ The University of Kent's Academic Repository KAR

The version of record is available from https://doi.org/10.1017/s003060532510166x

This document version

Publisher pdf

DOI for this version

Licence for this version

CC BY (Attribution)

Additional information

Versions of research works

Versions of Record

If this version is the version of record, it is the same as the published version available on the publisher's web site. Cite as the published version.

Author Accepted Manuscripts

If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding. Cite as Surname, Initial. (Year) 'Title of article'. To be published in *Title* of *Journal*, Volume and issue numbers [peer-reviewed accepted version]. Available at: DOI or URL (Accessed: date).

Enquiries

If you have questions about this document contact ResearchSupport@kent.ac.uk. Please include the URL of the record in KAR. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies).

Conservation News

Trend or coincidence? The removal of pangolin tongues threatens rehabilitation efforts

Pangolins have distinctive adaptations for their diet of ants and termites, including a specialized tongue that can extend to over half of their body length and on which they are entirely reliant for feeding. Overharvesting is a driver of decline in all pangolin species, and the trade in pangolins is regulated in many range states to prevent this. Enforcing regulations and trade bans often results in the seizure of live pangolins. In some instances, these pangolins are then transported to rehabilitation centres before release. During trade, there is generally limited consideration of pangolin welfare, and recovered pangolins often present with a variety of health issues caused by trade conditions, such as emaciation, snare wounds, infection and fractures.

Since 2019, the Tikki Hywood Foundation has been receiving pangolins confiscated from bushmeat markets throughout Cameroon during missions organized by Cameroonian authorities. During 2024–2025, four live white-bellied pangolins *Phataginus tricuspis* with their tongues partially or completely removed were received by the Foundation.

The pangolins were retrieved from markets or directly confiscated by the Ministry of Forestry and Wildlife in various towns and regions (Manjo, Abong Mbang, Nyong and Yaoundé). The most recent case was on 16 May 2025. Three pangolins (two pregnant females and one immature male) were retrieved with the full free section of their tongues removed. One subadult male was retrieved with the end of his tongue removed. It is unlikely such tongue injuries were caused by snares as there were no signs of wounds around the pangolin's necks. Regardless of the extent of tongue loss, all four pangolins were unable to feed,

and following confirmation of tongue damage, were euthanized on ethical and medical grounds.

The inability of pangolins to feed following even partial removal of the tongue is a concern for conservation rehabilitation. Pangolins are considered difficult to kill, and therefore tongues may be cut as this is believed to quickly kill the animal (our observations). More research into any potential increase in tongue cutting is needed, including a review of the treatment of pangolins while in the bushmeat trade, and survey of the motivations of collectors and handlers in selection of animal housing, treatment and slaughter method.

JH-C is funded by The Rufford Foundation (45307-2), DC by the Wild Animal Initiative (F-2023-00005) and DJI by a UK Research and Innovation Future Leaders Fellowship (MR/W006316/1).

Jessica Harvey-Carroll^{1,2,3} (jessica.harveycarroll@gmail. com), Daire Carroll^{1,2,3}, Daniel J. Ingram⁴, Ellen Connelly¹, Marine Montblanc¹, Julie Vanassche¹, Franklin T. Simo³, Alain D. T. Mouafo^{6,7} and Lisa Hywood¹

¹Tikki Hywood Foundation, Harare, Zimbabwe. ²Department of Biological and Environmental Sciences, University of Gothenburg, Gothenburg, Sweden. ³Gothenburg Global Biodiversity Centre, Gothenburg, Sweden. ⁴Durrell Institute of Conservation and Ecology, School of Natural Sciences, University of Kent, Canterbury, UK. ⁵Laboratory of Zoology, Department of Biology and Animal Physiology, Faculty of Science, University of Yaoundé I, Yaoundé, Cameroon. ⁶Research Unit of Biology and Applied Ecology, Faculty of Science, Université de Dschang, Cameroon. ⁷Agriculture and Bioconservation Organization for Youth Empowerment and Rural Development, Dschang, Cameroon

This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence CC BY 4.0.