

Ethiopian Wolf Conservation Programme

Oral vaccination protects Africa's most endangered carnivore

Over the past month, a team from the Ethiopian Wolf Conservation Programme (EWCP) implemented the first oral vaccination campaign to pre-empt outbreaks of rabies among Ethiopian wolves, the world's most endangered canid, in their stronghold in the Bale Mountains of southern Ethiopia.

This is turning point in the plight to save Ethiopian wolves from extinction, following a decade of intensive research, field trials and awareness work, led by the University of Oxford's Wildlife Conservation Research Unit and funding from the Born Free Foundation among others. Working alongside the Ethiopian Wildlife Conservation Authority, regular oral vaccination campaigns will now expand to all six extant wolf populations to enhance their chance of survival. There are fewer than 500 Ethiopian wolves in the world, all in the wild and highly exposed to infectious diseases transmitted by domestic dogs.

"30 years ago I witnessed an outbreak of rabies which killed the majority of the wolves I had followed closely for my doctoral studies. We have learnt much about these wolves and their Afroalpine homes since. By the time we detect rabies in a wolf population, already many animals are fatally infected and doomed. We now know that pre-emptive vaccination is necessary to save many wolves from a horrible death and to keep small and isolated populations outside the vortex of extinction. I whole-heartily celebrate the team's achievement" (Prof Claudio Sillero, EWCP Director and Founder).

Long-term programmes and targeted research are the cornerstones of biological conservation, as success often relies on an intimate knowledge of the workings of populations, the behaviour of individuals and the social, political and economic context. With a generous donation from Virbac of 3,000 SAG2 oral vaccines, EWCP has launched a vaccination strategy, guided by strong empirical information and predictive modelling, and a key component of the National Action Plan for the conservation of the species.



"Vaccine contained within a meat bait were distributed at night time to three Ethiopian wolf packs. Our target is to immunize at least 40% of all wolves in each population, reaching as many family packs as possible, including the dominant pair – on which pack stability largely depends. We recorded good uptake, with 88% of 119 baits deployed consumed over two nights. Using camera traps we monitored bait consumption, and we will next measure rabies titres levels in blood, to confirm the effectiveness of the vaccine over a larger sample than that

of the trials" (Muktar Abute, EWCP Vet Team Leader).

Oral vaccination using SAG2 has been successful in controlling, and even eradicating, rabies in wild carnivore populations in Europe. This approach now raises hopes for the survival of one of the rarest and most specialized carnivore species. Preventive vaccination can improve the status of other threatened wildlife, and the Ethiopian wolf experience may lead to other practitioners to embrace it as part of their conservation tool kit, in a world demanding closer control of pathogens shared by wildlife, domestic animals and humans.

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Notes

'Feasibility and efficacy of oral rabies vaccine SAG2 in endangered Ethiopian wolves' by Sillero-Zubiri C, Marino J, Gordon CH, Bedin E, Hussein A, Regassa F, Banyard A and Fooks AR, DOI: 10.1016/j.vaccine.2016.08.021, appears in *Vaccine*, Volume 34, issue 40 (2016), published by Elsevier.

Ethiopian Wildlife Conservation Authority. 2017. [National Action Plan for the conservation of the Ethiopian wolf](#), revised version 2017. EWCA, Addis Ababa, Ethiopia

Link to video of young wolf taking bait: <https://youtu.be/LI2R5SSIWRg>

About Ethiopian Wolf Conservation Programme (EWCP)

The Ethiopian Wolf Conservation Programme is a WildCRU endeavour in partnership with the Ethiopian Wildlife Conservation Authority and the Regional Governments. EWCP has worked to protect the world's rarest canid since 1988. www.ethiopianwolf.org

About Wildlife Conservation Research Unit (WildCRU)

Part of the University of Oxford's Department of Zoology, WildCRU is a pioneering, interdisciplinary research unit in a world-class academic centre. WildCRU underpins solutions to conservation problems through primary scientific research of the highest calibre. WildCRU's approach is empirical, interdisciplinary and collaborative, seeking to include all four elements of its 'Conservation Quartet' in research: to understand and address the problem; education to explain it; community involvement to ensure participation and acceptance; and implementation of long-term solutions. www.wildcru.org

About Ethiopian Wildlife Conservation Authority (EWCA)

The Ethiopian Wildlife Conservation Authority (EWCA) is a governmental organisation under the Ministry of Culture & Tourism undertaking conservation and sustainable utilisation of wildlife in Ethiopia. EWCA works closely with national and international stakeholders on wildlife conservation.

About Born Free Foundation (BFF)

The Born Free Foundation is an international wildlife charity, promoting compassionate conservation to enhance the survival of threatened species in the wild and protect natural habitats while respecting the needs and safeguarding the welfare of individual animals. www.bornfree.org.uk

About Virbac

Founded in 1968 by a French veterinarian, Virbac is an independent pharmaceutical laboratory present in more than 100 countries. The company offers a comprehensive and practical range of products and services covering the majority of animal species and pathologies. www.virbac.com

