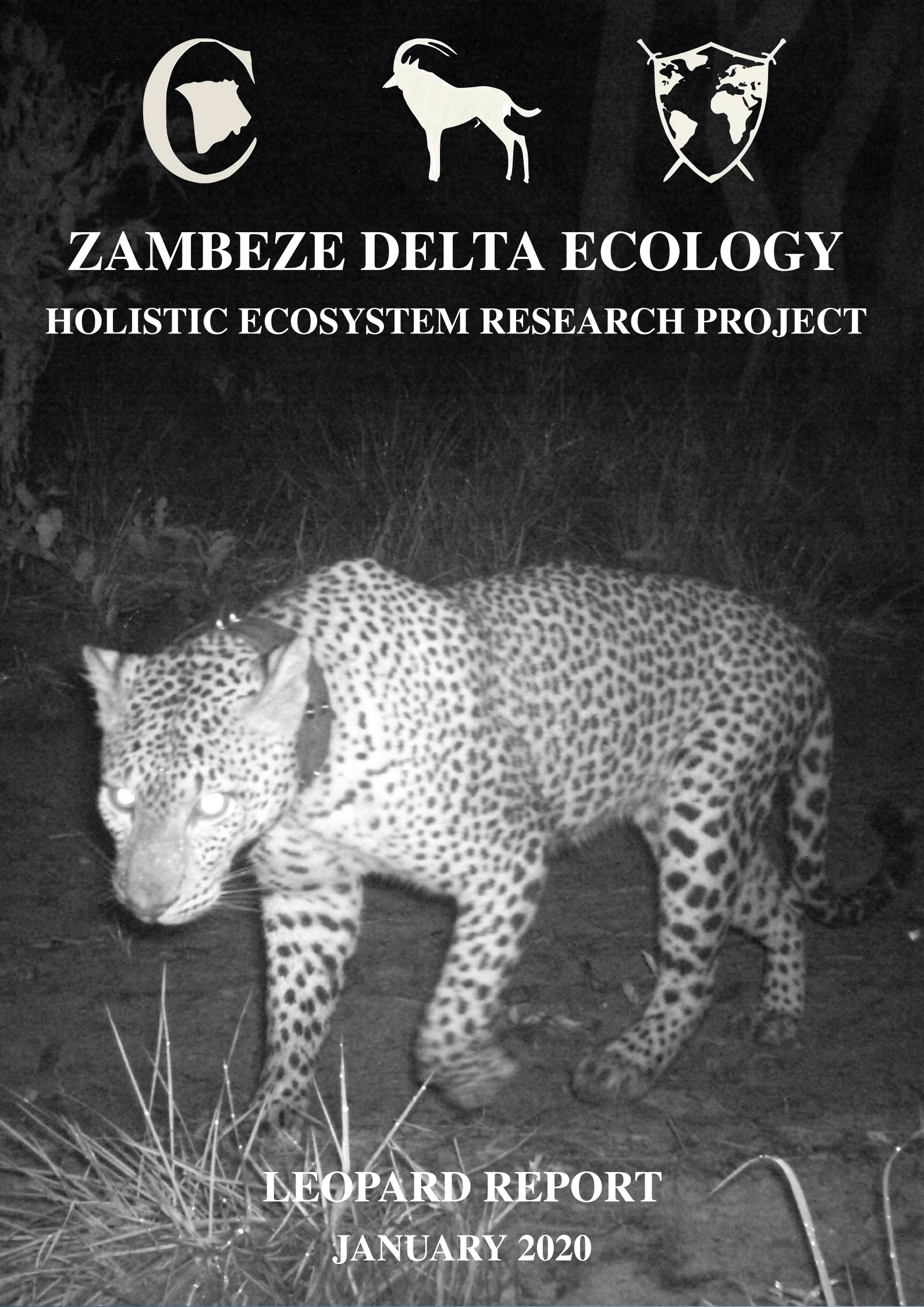
ZAMBEZE DELTA ECOLOGY

HOLISTIC ECOSYSTEM RESEARCH PROJECT



LEOPARD REPORT

JANUARY 2020

ZAMBEZI DELTA
LEOPARD RESEARCH

Leopards (*Panthera pardus*) have the most widespread distribution of all cats in Africa, which is attributed to their behavioural and dietary adaptability[1]. Leopards are also able to survive in a broad range of habitats[1] (including areas close to human settlements)[2]. Despite their distribution and adaptability, leopards are listed as Vulnerable on the IUCN Red List of Threatened Species. This is mainly due to habitat loss across much of their range as well as the decreasing population trend, which is particularly prevalent in North and West Africa[3]. Leopard populations in southern Africa are probably most stable and even increasing in some areas, followed by eastern and central Africa[3,4].

We know very little about leopards in Mozambique. To date, there have been only three leopard-specific studies conducted in the country[5,6,7]. Therefore, this project aims to provide much needed research on Mozambique's leopards, by collaring a total of five leopards in the Zambezi Delta. Ultimately, if we want to conserve a species, we must know as much as possible about their ecological requirements. Therefore, by collaring these leopards, we aim to study their movements, diet, habitat use, genetics and behaviour which will help us to better conserve them in the future. Currently, two female leopards have already been collared in Coutada 11, therefore in 2020 we aim to collar an additional three leopards.

NEW COLLARS

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HAPPIER CATS

In October 2019, we started using new GPS satellite collars for leopards. These Africa Wildlife Tracking (AWT) collars are specifically designed for medium-sized cats species such as cheetahs (*Acinonyx jubatus*) and leopards. Not only are these collars very lightweight, but they also have a leopard pattern design, making the collar less noticeable. Thanks to the Ivan Carter Wildlife Conservation Alliance, we now have happier cats with impressive-looking collars which will provide us with important spatial data of leopards in the Zambezi Delta.

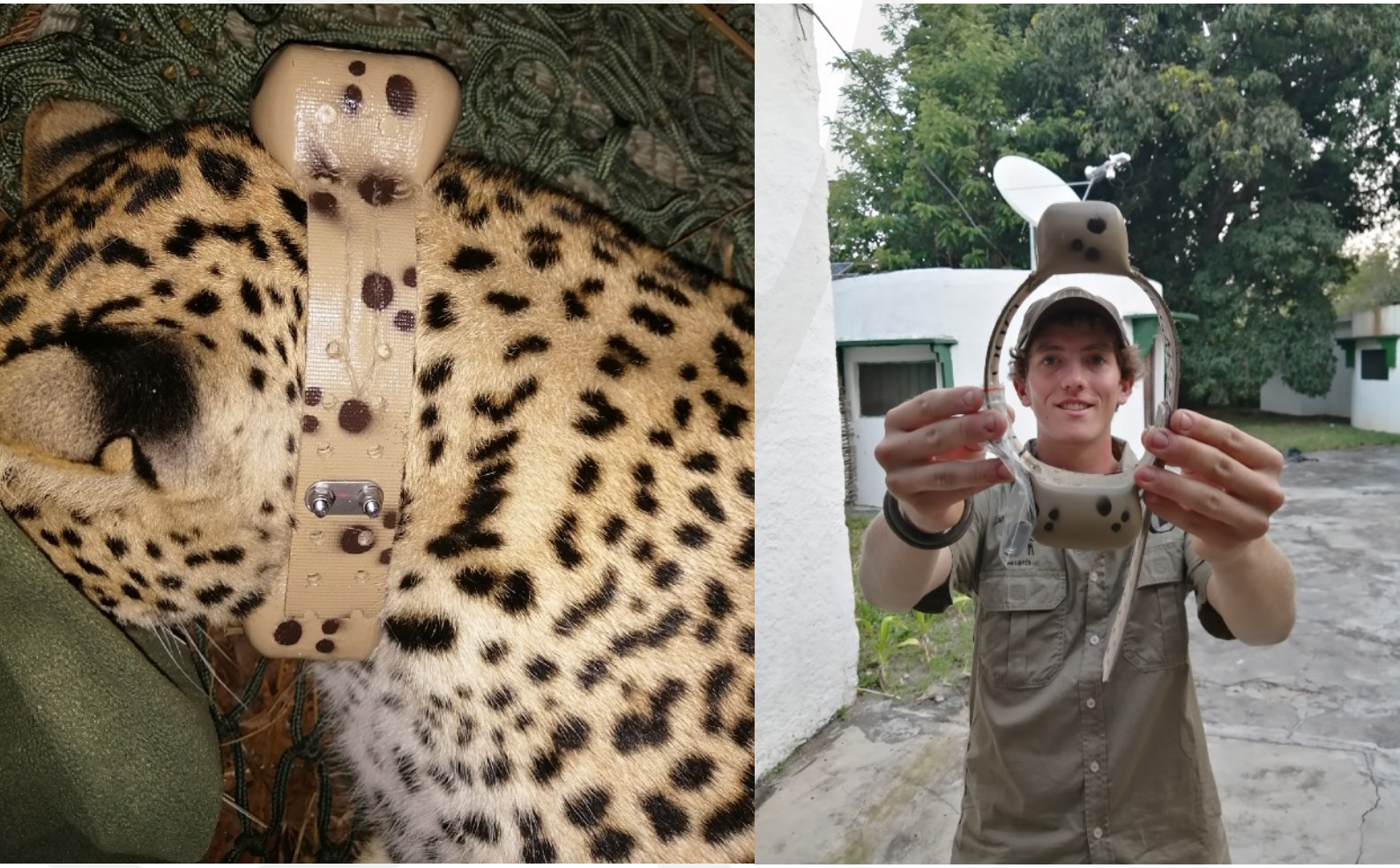

Figure 1. Female leopard (LEO-F002) fitted with one of the new GPS collars (left) and Andrés "Beto" Hayes showing his excitement about the new collars.

SPATIAL MOVEMENT

JANUARY 2020

After collaring our first two female leopards in 2019, we have been quite surprised by their movements. Their home ranges are larger than we expected, with an average home range size of 109.4km^2. LEO-F001 has a relatively large range (130.4 km^2) in Coutada 11, while the younger LEO-F002 has a comparatively smaller range (88.4 km^2) which includes Coutada 11 and 12. As seen in Figure 2, there is no overlap in area use between the two collared females. However, based on camera trapping and tracking, we know of another female occupying an area between these two females.

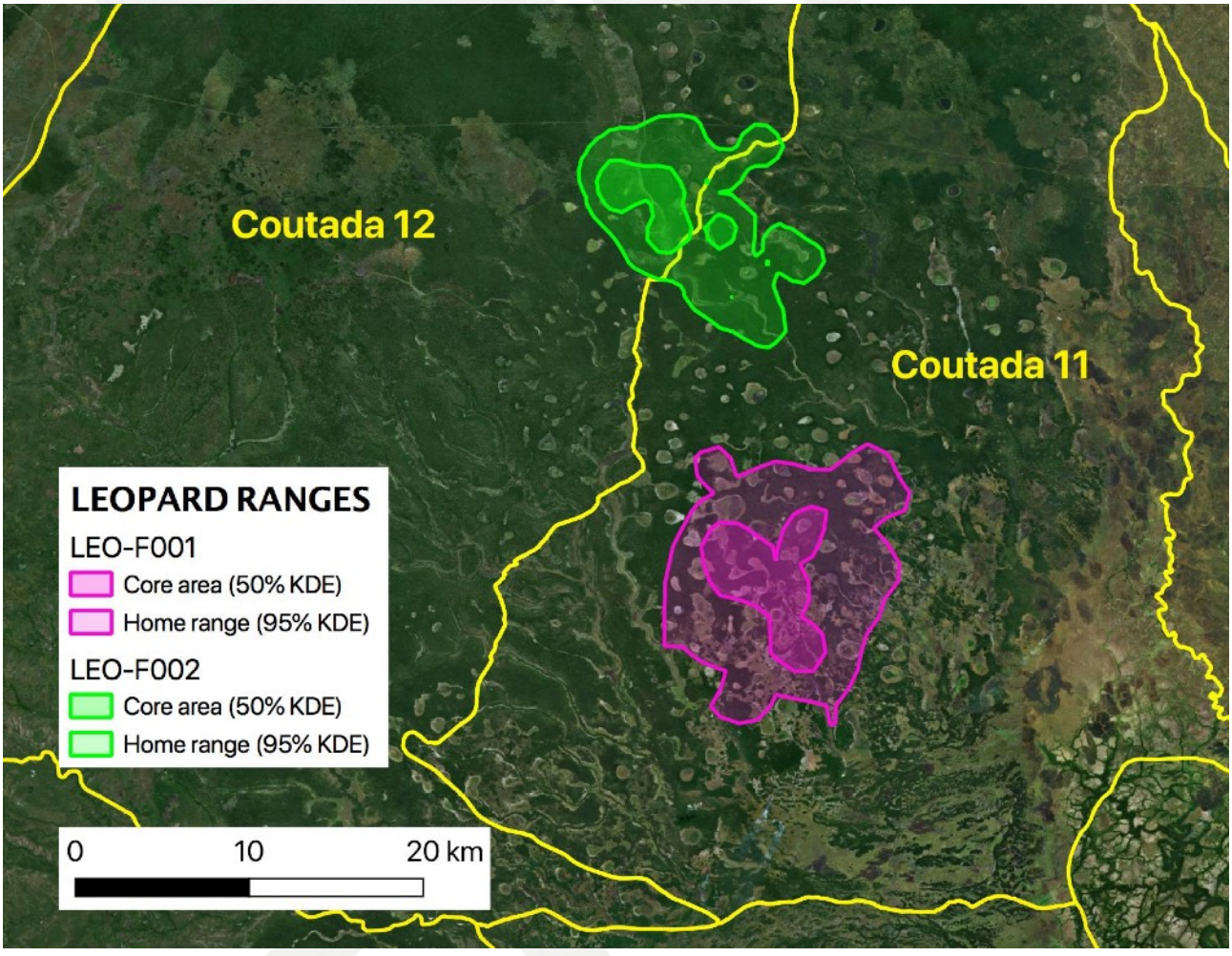

Figure 2. Core (50% KDE) and home ranges (95% KDE) of female leopards LEO-F001 and LEO-F002 for January 2020.

CAMERA TRAPPING SURVEY

In 2019 we also started our first camera trapping survey in Coutada 11 in the Zambezi Delta. The aim of this survey is to estimate leopard population density, but also to continue this survey to provide long-term trends in leopard population changes.

The leopard photographs have already been sorted and during the next month we will analyse the data in a statistical programme known as *R* to produce these estimates. With these focused research methods, we hope to learn more about leopards and the potential threats they face in the Zambezi Delta, with the ultimate goal of conserving the species.

Figure 3. An uncollared female leopard (left) & LEO-F001 and an uncollared adult male leopard (right) captured on camera during our 2019 camera trapping survey in Coutada 11.

References

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