LOLLDAIGA HILLS RESEARCH PROGRAMME

NEWSLETTER

Tom Butynski & Yvonne de Jong

July–August 2018 (Issue 20)

Cover photograph: Adult Secretary Bird *Sagittarius serpentarius*, Lolldaiga Hills Ranch, Kenya. At least three pairs of this IUCN Red Listed ('Vulnerable') species occur on Lolldaiga Hills Ranch. Photograph by Paul Benson.

New to lolldaiga.com

- News: Lolldaiga Hills Ranch's bird list reaches 407 species
- Blog: Leopard Tortoise on Lolldaiga Hills Ranch
- Blog: Lolldaiga Hills Ranch's 'Crisis Grazing Programme'
- Poster: Management regime mediates the precipitation-vegetation relationship in rangelands: Implications for 'climate-smart' ecological restoration planning
- Poster: Biogeography and conservation of Desert Warthog *Phacochoerus aethiopicus* and Common Warthog *Phacochoerus africanus* in the Horn of Africa

News

Lolldaiga Hills Ranch's bird list reaches 407 species

Tom Butynski and Yvonne de Jong, Lolldaiga Hills Research Programme

Seven species have been added to the Lolldaiga Hills Ranch bird list thus far during 2018. These species have been encountered by Per Aronsson, Nigel Hunter, Brian Finch, and Tom Butynski. The list now stands at 407 species. Here are the seven species:

Aviceda cuculoides African Cuckoo-hawk
Lissotis melanogaster Black-bellied Bustard
Cuculus gularis African Cuckoo
Hirundo smithii Wire-tailed Swallow
Plocepasser mahali White-browed Sparrow Weaver
Euplectes ardens Red-collared Widowbird
Vidua fischeri Straw-tailed Whydah

The up-dated version of *Birds of Lolldaiga Hills Ranch* can be downloaded at:
http://www.lolldaiga.com/biodiversity-research/biodiversity/species-list/

Above: Adult White-browed Sparrow Weaver *Plocepasser mahali,* one of the bird species new to the Lolldaiga Hills Ranch bird list. Photograph by Yvonne de Jong and Tom Butynski.

Left: Adult White-throated Bee-eater *Merops albicollis* on Lolldaiga Hills Ranch. Photograph by Per Aronsson.

Blog

Leopard Tortoise on Lolldaiga Hills Ranch

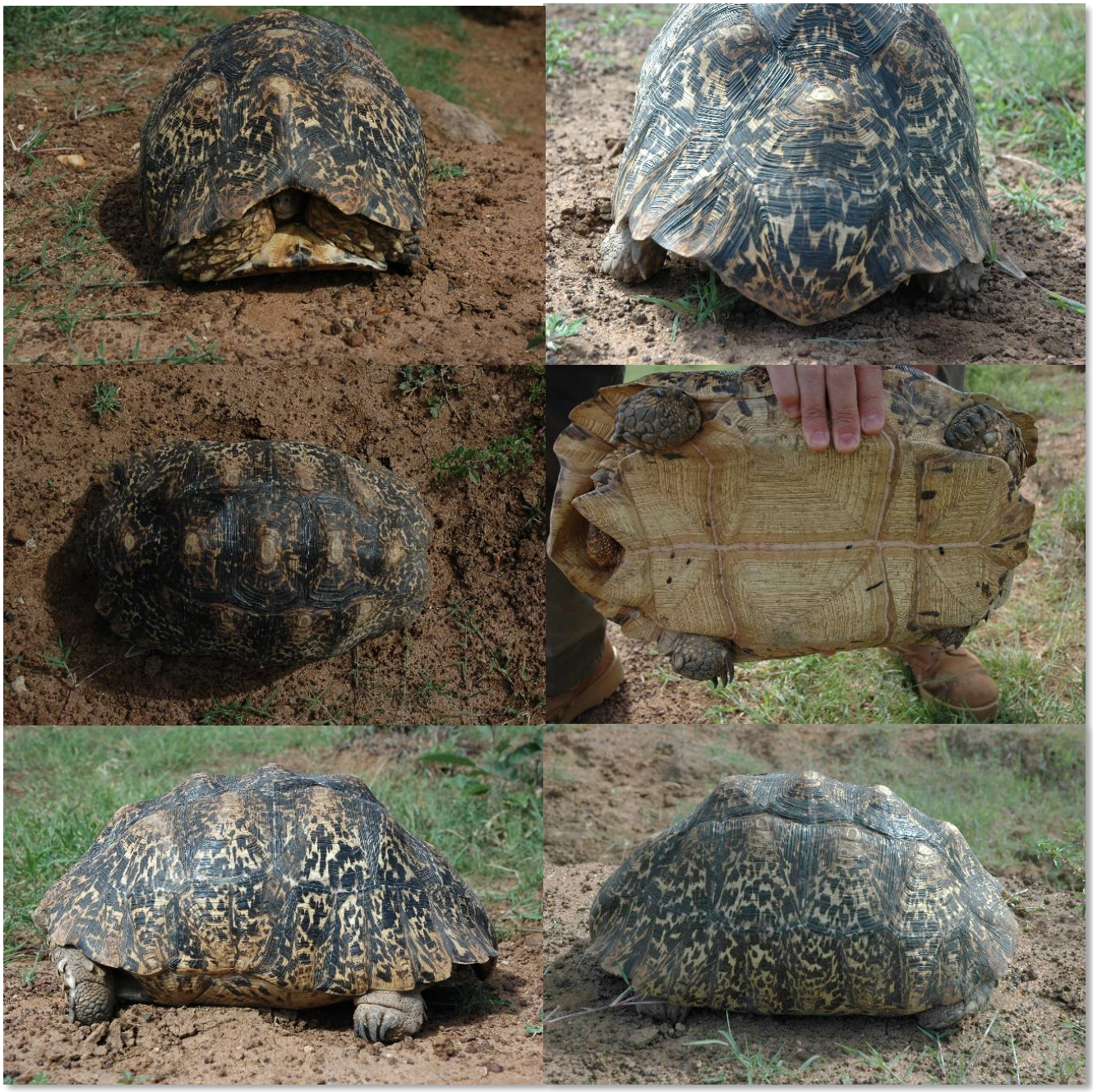
Grant Rowley, Lolldaiga Hills Ranch

The Leopard Tortoise *Stigmochelys pardalis* is the fourth largest species of tortoise in the world (up to 18 kg), and the largest and most abundant in sub-Saharan Africa (Drabik-Hamshare 2017). The distinctive black or dark grey markings on the yellow or tan shell (= carapace) is unique for each individual and tends to fade with age. The Leopard Tortoise prefers the arid and semi-arid regions of eastern and southern Africa, being distributed from South Sudan and Somalia in the north, southwards to South Africa, and westwards to Namibia. The Leopard Tortoise is negatively affected by habitat loss, fire, and the pet trade. None-the-less, this species remains common at many sites and is listed as 'Least Concern' on the *IUCN Red List of Threatened Species*.

Adult Leopard Tortoise *Stigmochelys pardalis* in open Whistling Thorn *Acacia drepanolobium* woodland on Lolldaiga Hills Ranch, central Kenya. Photograph by Grant Rowley.

Leopard Tortoise is the only species of tortoise recorded on Lolldaiga Hills Ranch, central Kenya, where it is commonly encountered. The only other turtle known with certainty to be present on the Ranch is the Serrated Hinged Terrapin *Pelusios sinuatus*. During a herpetofauna survey in December 2013, droppings thought to be those of the poorly known and 'Vulnerable' Pancake Tortoise *Malacochersus tornieri* were found at the northern extreme of Lolldaiga Hills Ranch, but this species has never been sighted on the Ranch (Spawls *et al.* 2013).

Between 12 May and 25 June 2018, 31 Leopard Tortoises were encountered on Lolldaiga Hills Ranch and 19 on the contiguous Enasoit Ranch. Data obtained during each encounter included date, time, location, altitude, vegetation type, sex, weight, greatest circumference, and greatest length of the shell along the mid-line. Photographs were taken in order to identify each tortoise over the long-term.



Examples of the variation in shell shape and colour among adult Leopard Tortoises *Stigmochelys pardalis,* Lolldaiga Hills Ranch. Photographs by Grant Rowley.

Leopard Tortoises were encountered between 1,823 and 2,217 m asl (mean = 1921 m). This species appeared to be at highest density below 1,500 m asl. Of the 50 Leopard Tortoises encountered, 22 were males and 28 were females.

Adult female Leopard Tortoises are, on average, larger than adult males (Baker 2015). The measurements obtained from tortoises encountered on Lolldaiga Hills Ranch confirm this (Table 1).

Table 1. Mean measurements of 50 Leopard Tortoises on Lolldaiga Hills Ranch and Enasoit Ranch, central Kenya. Ranges given in parentheses.

Tortoises	Mean circumference (cm)	Mean length (cm)	Mean weight (kg)
Males (n=22)	73 (55–97)	51 (40–69)	10.1 (4.5–20.5)
Females (n=28)	78 (35–104)	54 (21–69)	11.9 (4.9–20.8)
Total (n=50)	76 (35–104)	53 (21–69)	11.4 (4.5–20.8)

Four of the 31 tortoises encountered on Lolldaiga Hills Ranch were found a second time (Table 2, Figure 1).

Table 2. Distance between initial encounter and second encounter with four Leopard Tortoises on Lolldaiga Hills Ranch.

Tortoise number	Distance between first and second encounter (m)	Days between first and second encounter
5	67	14
7	125	1
12	625	14
18	75	6

Leopard Tortoise *Stigmochelys pardalis* on Lolldaiga Hills Ranch. Photograph by Grant Rowley.

References: Baker, P. J., Kabigumila, J., Leuteritz, T., Hofmeyr, M. & Ngwava, J. M. 2015. *Stigmochelys pardalis*. IUCN Red List of Threatened Species. Website: www.iucn.org. **Drabik-Hamshare, M. & Downs, C. T. 2017**. Movement of leopard tortoises in response to environmental and climatic variables in a semi-arid environment. *Movement Ecology* 5: 5. DOI 10.1186/s40462-017-0096-y. **Spawls, S., Malonza, P. K. & Muchai, V. 2013**. *Report on the three-day survey of the herpetofauna of Lolldaiga Hills Ranch, central Kenya*. Report to Lolldaiga Hills Research Programme. Website: http://www.lolldaiga.com/report-on-a-three-day-survey-of-the-herpetofauna-of-lolldaiga-hills/.

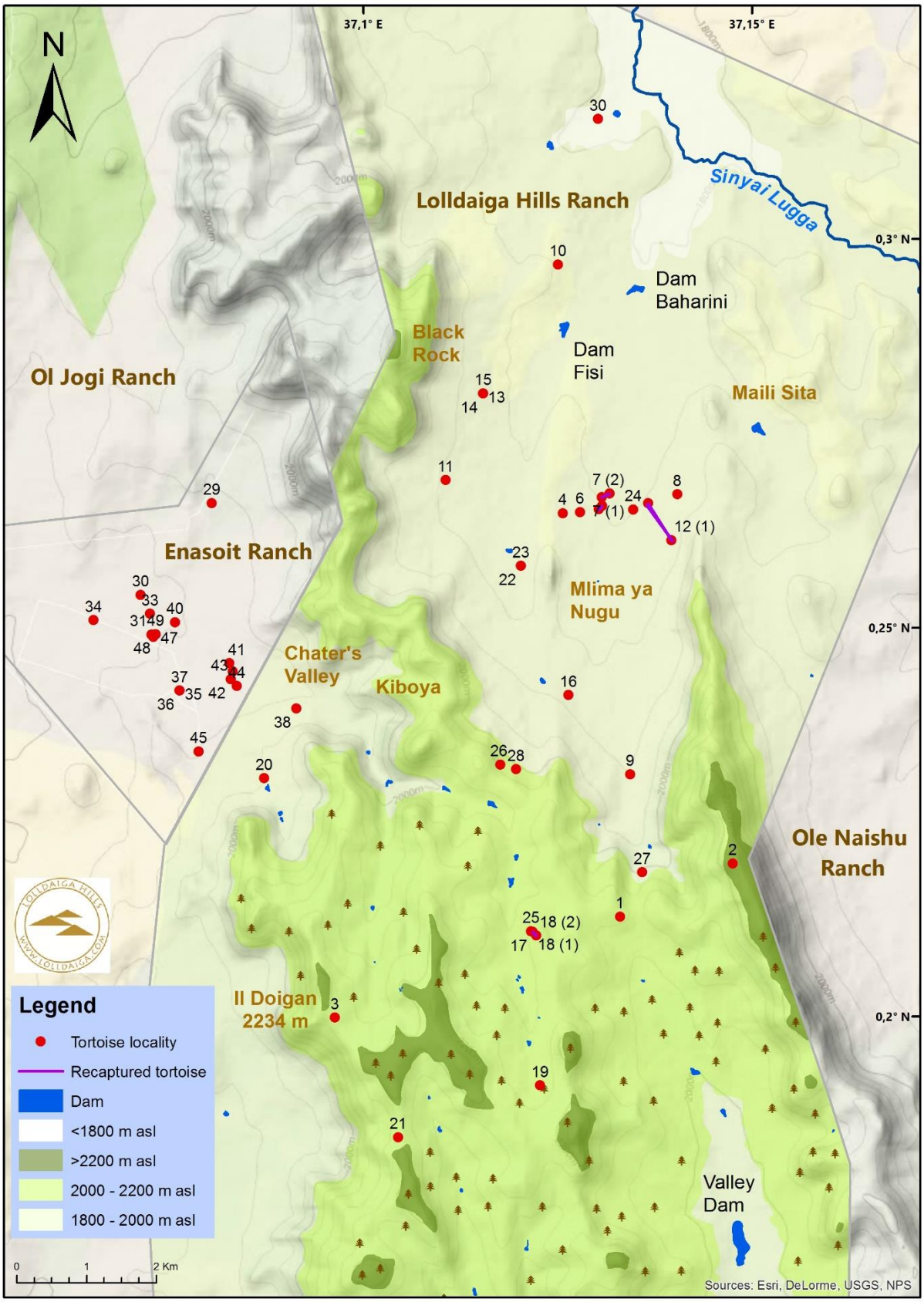


Figure 1. Localities of 50 Leopard Tortoise encountered on Lolldaiga Hills Ranch and Enasoit Ranch, central Kenya. Localities of the four recaptured individuals are connected by a purple line.

DIK DIK CAMP

ON LOLLDAIGA HILLS RANCH

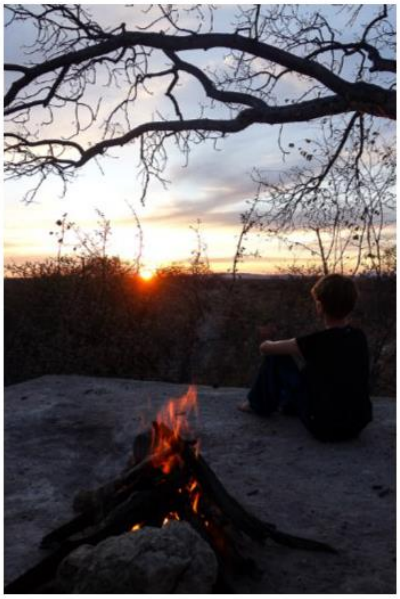
LAIKIPIA COUNTY, CENTRAL KENYA

N 00.217
E 37.129
2100 METRES ASL

CONTACT

Tom Butynski
tbutynski@aol.com

6 bandas • 12 beds • tent sites • kitchen • cook • hot water • electricity • wi-fi • hiking • night drives • great views • self catering • >400 bird species • 99 mammal species



WWW.LOLLDAIGA.COM

Blog

Lolldaiga Hills Ranch's 'Crisis Grazing Programme'

Harry Wells & Peter Karani, Lolldaiga Hills Ranch

Increased pressure of grazing by livestock, together with a reduced time for vegetation to recover from grazing, have led to degradation in the rangelands of Laikipia County, Kenya. The community-owned rangelands neighbouring Lolldaiga Hills Ranch are no exception.

Cattle in North Valley, Lolldaiga Hills Ranch, central Kenya. Notice, in the background, the extreme degradation of the rangeland on the neighbouring Makurian Group Ranch. Photograph by Per Aronsson.

Since 2013, Lolldaiga Hills Ranch has operated the 'Crisis Grazing Programme' to provide grazing to cattle from local communities during dry periods. Under bilateral grazing agreements, the Ranch provides crisis grazing to Makurian Group Ranch, Kimugandura Community, Mumonyot Community, and Lekurruki Group Ranch.

The bilateral grazing agreements are developed though Community Grazing Committees, which decide the composition of the herds. Each community pays a small fee for the right to graze on Lolldaiga (KShs 150/animal/month). The poorest families are permitted to graze a total of 200 cattle free-of-charge.

During 2013, Lolldaiga Hills Ranch provided crisis grazing to 1,000 cattle for 34 days (34,000 animal-days). This has steadily increased over the past 4 years. In 2014, 2015, 2016, and 2017, the Ranch provided 61,000, 161,324, 157,620, and 264,980 animal-days of crisis grazing, respectively.

Cattle on Lolldaiga Hills Ranch. Photograph by Yvonne de Jong.

Poster

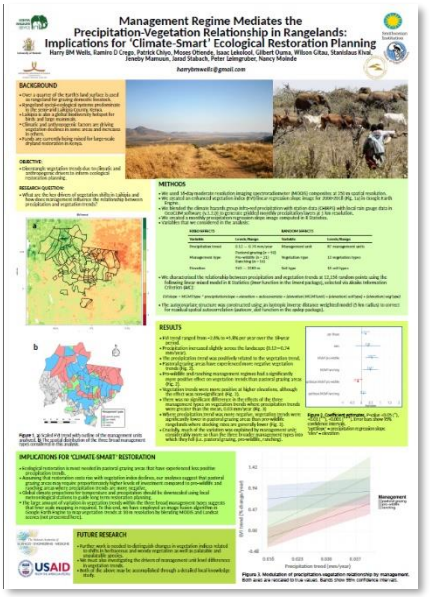
Management regime mediates the precipitation-vegetation relationship in rangelands: Implications for 'climate-smart' ecological restoration planning

Harry B. M. Wells, Ramiro D. Crego, Patrick Chiyo, Moses Otiende, Isaac Lekolool, Gilbert Ouma, Wilson Gitau, Stanislaus Kivai, Jeneby Mamuun, Jarad Stabach, Peter Leimgruber & Nancy Moinde

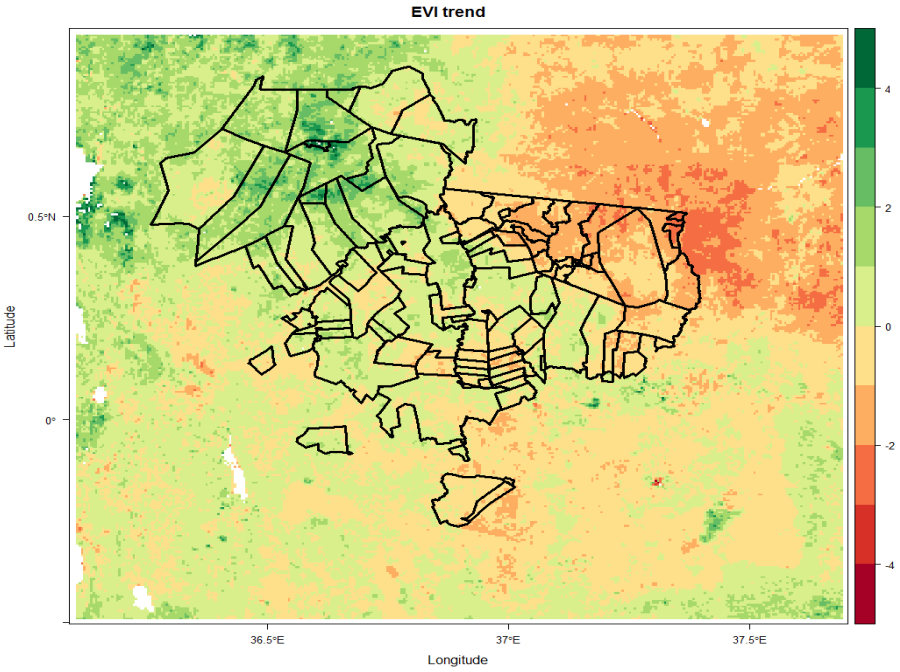
SER Europe Conference, Restoration in the Era of Climate Change, 9–13 September 2018, Reykjavik, Iceland

Abstract: Over one-quarter of the Earth's land surface is used as rangeland for grazing domestic livestock. Rangelands are the dominant land use in Laikipia County, Kenya, which is also a global biodiversity hotspot for birds and large mammals. Our objective was to disentangle the influences of climatic and anthropogenic drivers on vegetation trends in Laikipia's rangelands. Using enhanced vegetation index (EVI) as a proxy for vegetation cover and productivity we investigated the impact of precipitation trends, management types and elevation on the vegetation trend.

After accounting for differences in vegetation types, soil types, and management unit level effects, 'pro-wildlife ranching' and 'pure ranching' had significantly more positive impact on vegetation trends than 'pastoral grazing'. Moreover, while there was no significant difference between 'ranching' and 'pastoral grazing' in their effect on the relationship between precipitation and vegetation trends, 'pro-wildlife' management significantly reduced the negative effect that lower precipitation trends had on vegetation trends. Finally, our analysis highlights that ecological restoration is most needed in pastoral grazing areas that have experienced less positive precipitation trends, although they are also likely to require the greatest investment.



Electronic copy of the poster available at: http://www.lolldaiga.com/ser/



Enhanced vegetation index (EVI) of Laikipia County, Kenya, and vicinity. Map by the authors.

Poster

Biogeography and conservation of Desert Warthog *Phacochoerus aethiopicus* and Common Warthog *Phacochoerus africanus* in the Horn of Africa

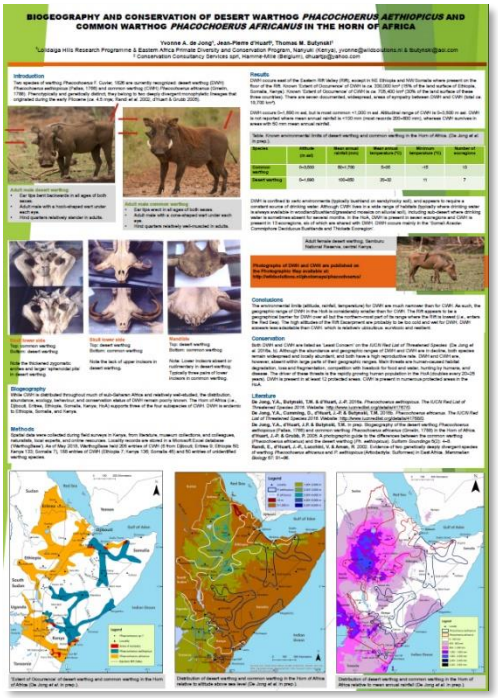
Yvonne A. de Jong, Jean-Pierre d'Huart & Thomas M. Butynski

12th International Symposium on Wild Boar and other Suids, 4–7 September 2018, Lázně Bělohrad, Czech Republic

Abstract:

Two species of warthog *Phacochoerus* F. Cuvier, 1826 are currently recognized: Desert Warthog (DWH) *Phacochoerus aethiopicus* (Pallas, 1766) and Common Warthog (CWH) *Phacochoerus africanus* (Gmelin, 1788). While CWH is widely distributed over much of sub-Saharan Africa, the distribution, abundance, ecology, behaviour, and conservation status of DWH remain poorly known. Recent investigations in the Horn of Africa (*i.e*., Djibouti, Eritrea, Ethiopia, Somalia, Kenya; HoA) provide new information on the biogeography of both species.

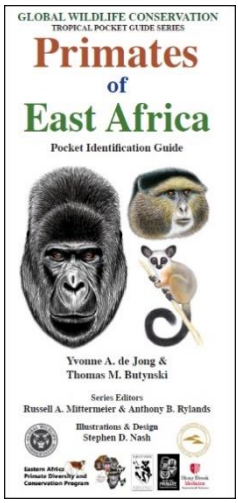
DWH is confined to lowland xeric environments (typically bushland) where there is constant drinking water. CWH is typically a species of habitat mosaics with more open country, including sub-desert were drinking water is sometimes absent. In the HoA, DWH is present in seven ecoregions while CWH is present in 13 ecoregions, six of which are shared with CWH. There are seven known areas of sympatry between the two species. The environmental limits (altitude, rainfall, temperature) for DWH are mu CWH. As such, the geographic range of DWH in the HoA is considerably smaller than for CWH. The Eastern Rift Valley appears to be a geographic barrier for DWH, with the higher altitudes of the Rift Escarpment probably too cold and too wet for DWH.



Electronic copy of the poster available at: www.lolldaiga.com/warthogbiogeographyhoa/

DWH and CWH are listed as 'Least Concern' on the IUCN Red List of Threatened Species. Nonetheless, the abundance and geographic ranges of both species are in decline. The threats, largely driven by a fast-growing human population, include habitat degradation, loss and fragmentation, competition with livestock for food and water, and hunting.

Subadult Desert Warthogs *Phacochoerus aethiopicus* north of Garissa, eastern Kenya. Photograph by Yvonne de Jong and Tom Butynski



Global Wildlife Conservation

Primates of East Africa

Pocket Identification Guide

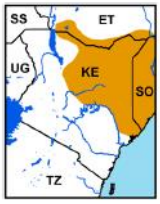
Yvonne de Jong & Tom Butynski
Illustrations & Design Stephen Nash

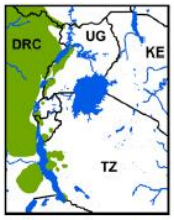
2018

70 taxa • 32 distribution maps • 73 drawings

Somali lesser galago
Komba
Galago gallarum

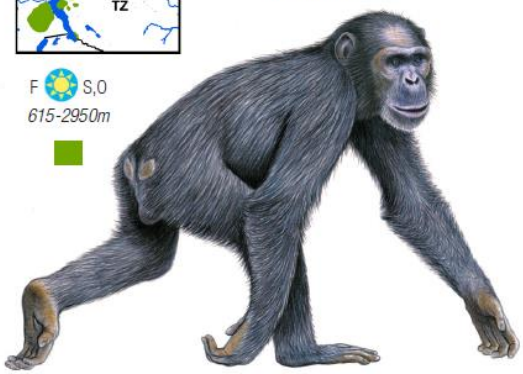
W A,O
0-1250m



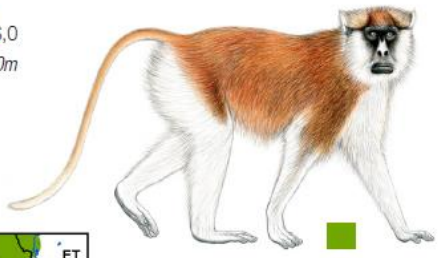


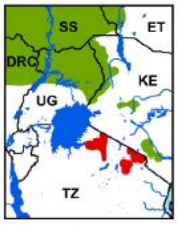
Eastern chimpanzee
Sokwe mtu
Pan troglodytes schweinfurthii

F S,O
615-2950m



W S,O
650-2050m

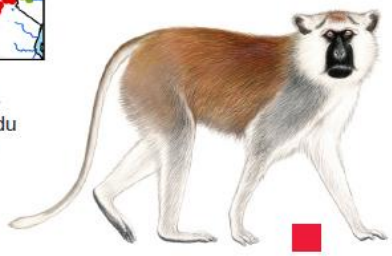




Eastern patas monkey
Kima mwekundu
Erythrocebus patas pyrrhonotus

Southern patas monkey
Kima mwekundu
Erythrocebus patas baumstarki

W S,O
800-1600m

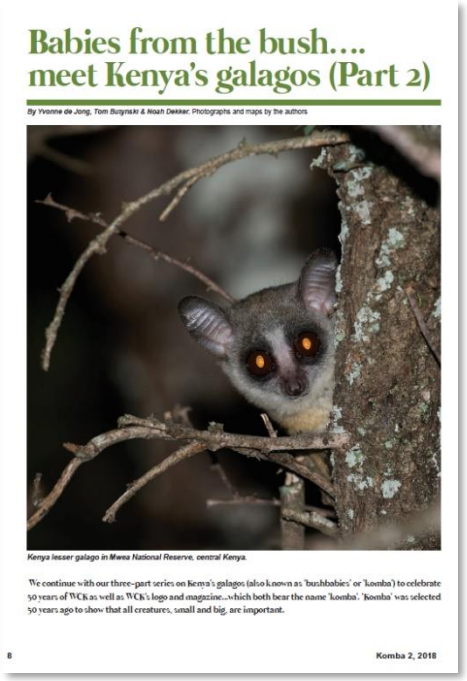


Available at:

- **www.nhbs.com**
- **Bookstop, Yaya Centre, Nairobi**
- **Nature Kenya, Nairobi**
- **National History Museum, Nairobi**

Eastern Africa Primate Diversity and Conservation Program, www.wildsolutions.nl
Lolldaiga Hills Research Programme, www.lolldaiga.com

Publications and Reports


Babies from the bush…. meet Kenya's galagos (Part 2)

By Yvonne de Jong, Tom Butynski & Noah Dekker. Photographs and maps by the authors

Kenya lesser galago in Mwea National Reserve, central Kenya.

We continue with our three-part series on Kenya's galagos (also known as 'bushbabies' or 'komba') to celebrate 50 years of WCK as well as WCK's logo and magazine...which both bear the name 'komba.' 'komba' was selected 50 years ago to show that all creatures, small and big, are important.

8 Komba 2, 2018

Publication

- De Jong, Y. A., d'Huart, J. P. & Butynski, T. M. 2018. Biogeography of the Desert Warthog *Phacochoerus aethiopicus* (Pallas, 1766) and Common Warthog *Phacochoerus africanus* (Gmelin, 1788) in the Horn of Africa. Poster presented at the 12th International Symposium on Wild Boar and other Suids, 4–7 September 2018, Lázně Bělohrad, Czech Republic.
- De Jong, Y. A., Butynski, T. M. & Dekker, N. F. H. 2018. Babies from the bush….meet Kenya's galagos (Part 2). *Komba* 2: 8–11.
- Wells, H. B. M., Crego, R. D., Chiyo, P., Otiende, M., Lekolool, I., Ouma, G., Gitau, W., Kivai, S., Mamuun, J., Stabach, J., Leimgruber, P. & Moinde, N. 2018. Management regime mediates the precipitation-vegetation relationship in rangelands: Implications for 'climate-smart' ecological restoration planning. Poster presented at the SER Europe Conference, Restoration in the Era of Climate Change, 9–13 September 2018, Reykjavik, Iceland.

In press

- Butynski, T. M. & De Jong, Y. A. Primates of Africa's coastal deltas and their conservation. In: *Primates in Flooded Habitats: Ecology and Conservation*. Nowak, K., Barnett, A. A. & Matsuda, I., eds. Cambridge University Press, Cambridge, UK.
- Cunneyworth, P., De Jong, Y. A., Butynski, T. M. & Perkin, A. W. IUCN/SSC Red List assessment for Peter's Angolan Colobus *Colobus angolensis palliatus. The IUCN Red List of Threatened Species 2018*. IUCN/SSC, Gland, Switzerland.
- De Jong, Y. A. & Butynski, T. M. IUCN/SSC Red List assessments for 55 taxa of African primates. *The IUCN Red List of Threatened Species 2018*. IUCN/SSC, Gland, Switzerland.
- Kivai, S. M., Butynski, T. M., De Jong, Y. A., King, J., Loyola, L. C., Mbora, D. N. M. & Ting, N. Tana River Red Colobus *Piliocolobus rufomitratus* / Critically Endangered. *IUCN/SSC Red Colobus Action Plan.* IUCN/SSC, Gland, Switzerland.
- Rovero, F., Davenport, T. R. B., De Jong, Y. A. & Butynski, T. M. IUCN/SSC Red List assessment for Sharpe's Angolan Colobus *Colobus angolensis palliatus. The IUCN Red List of Threatened Species 2018*. IUCN/SSC, Gland, Switzerland.

Submitted

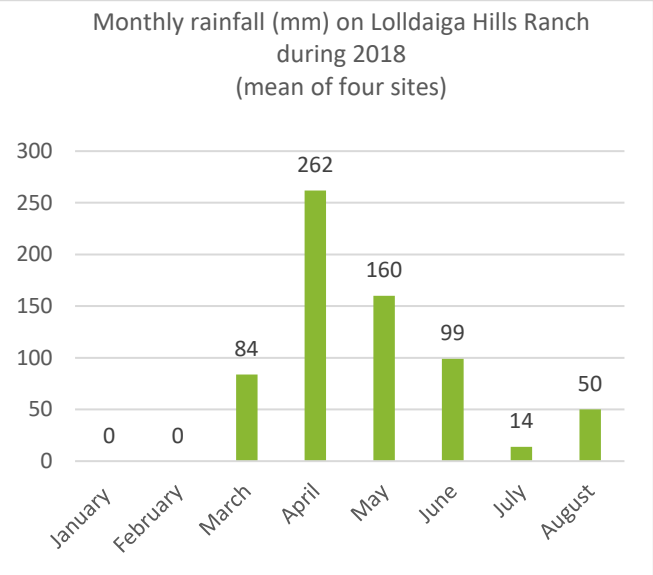
- Kenworthy, S. P., Butynski, T. M., De Jong, Y. A., de Kort, S. & Bettridge, C. M. Intraspecific structural differences in loud calls of the Small-eared Greater Galago (*Otolemur garnettii*).
- Svensson, M. S., Butynski T. M., De Jong, Y. A., Bearder, S. K. & Nijman, V. Geographic variation in the loud call of the Northern Lesser Galago (*Galago senegalensis*).

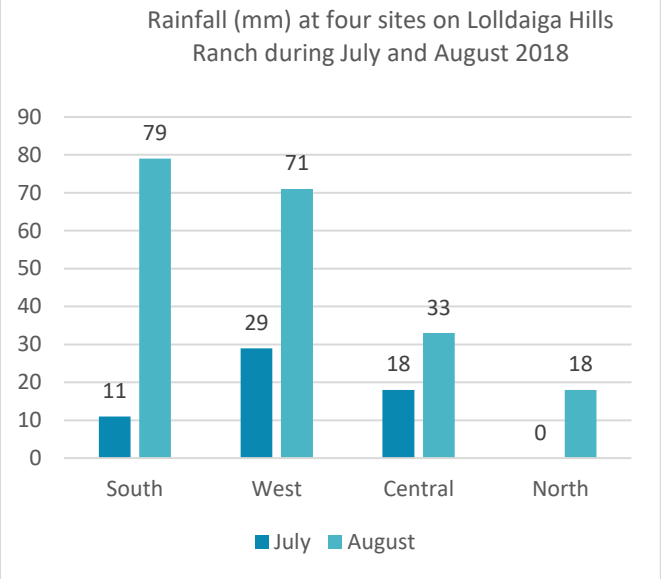
In preparation

- Butynski, T. M. & De Jong, Y. A.. African colobine conservation. In: *The Colobines: Natural History, Behaviour and Ecological Diversity.* Matsuda, I., Grueter, C. C. & Teichroeb, J. A., eds. Cambridge University Press, Cambridge, UK.
- Butynski, T. M. & De Jong, Y. A. *Primates of Southern Africa: Pocket Identification Guide.*
- De Jong, Y. A. & Butynski, T. M. Biogeography, taxonomy and phenotypic clines of Olive Baboon *Papio anubis* and Yellow Baboon *Papio cynocephalus* in Kenya and Tanzania. In: *Baboons.* Wallis, J., ed. Cambridge University Press, Cambridge, UK.
- De Jong, Y. A. & Butynski, T. M. *Primates of Northeast Africa: Pocket Identification Guide.*
- De Jong, Y. A. & Butynski, T. M. Vocal pattern of the loud call of Somali Lesser Galago *Galago gallarum* Thomas, 1901.

Rainfall on Lolldaiga Hills Ranch

Rainfall data kindly provided by Peter Karani.





Nesting Secretary Birds *Sagittarius serpentarius*, Lolldaiga Hills Ranch, Kenya. At least three pairs of this IUCN Red Listed ('Vulnerable') species occur on Lolldaiga Hills Ranch. Photograph by Paul Benson.

Species totals as of end of August 2018

Mammals Lolldaiga Hills Conservation Landscape……..106 species
Mammals Lolldaiga Hills Ranch……99 species
Birds Lolldaiga Hills Ranch……407 species
Birds proposed IBA/KBA……633 species
Reptiles Lolldaiga Hills Ranch……33 species
Amphibians Lolldaiga Hills Ranch……12 species
Butterflies Lolldaiga Hills Ranch……135 species
Moths Lolldaiga Hills Ranch……>200 species

Except for moths, species list for the above taxonomic groups can be viewed at www.lolldaiga.com

Best Zoological Society of London/Lolldaiga Hills Research Programme Camera Trap Project photographs on Lolldaiga Hills Ranch (July–August 2018).

Reticulated Giraffe *Giraffa reticulata*

Savanna Hare *Lepus victoriae*

Savanna Elephant *Loxodonta africana*

Savanna Elephant *Loxodonta africana*

Steenbuck *Raphicerus campestris*

Common Duiker *Sylvicapra grimmia*

Aardvark *Orycteropus afer*

Striped Hyaena *Hyaena hyaena*

Impala *Aepyceros melampus*

White-tailed Mongoose *Ichneumia albicauda*

Common Eland *Taurotragus oryx*

Common Warthog *Phacochoerus africanus*