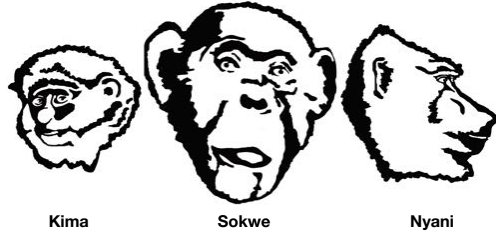


Non-human primates & Issa Valley



Friday, June 9, 2023

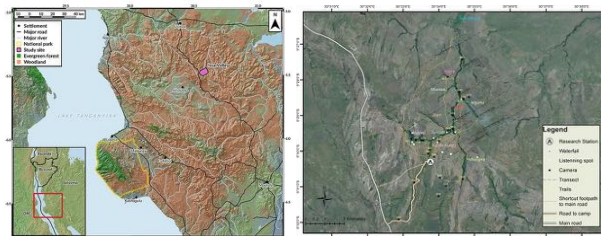
red tail monkeys, chimpanzees and baboons, will be the principal non-human primates species we will see.

Non-human primates & Issa Valley



The field site in Issa Valley, Western Tanzania, GMERC, run by Dr Fiona Stewart and her husband Dr Alex Piel and her team.
Mambo woodland on ancient sand stone, wooded savannah with evergreen riparian forests.
relatively high altitude (1550m almost as high as Denver, CO).

Non-human primates & Issa Valley



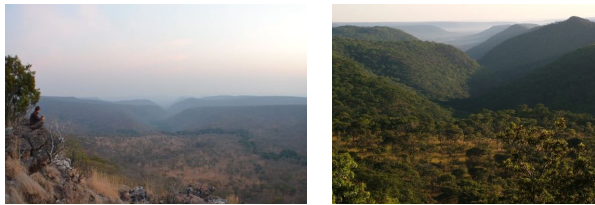
Location of site, both Issa valley and Mahale National Park

Issa Valley Research Camp



Research camp, located on one of the highest points, providing good acoustic overview. Chimpanzees are easiest found based on their very loud social vocalizations.

Issa Valley dry and wet

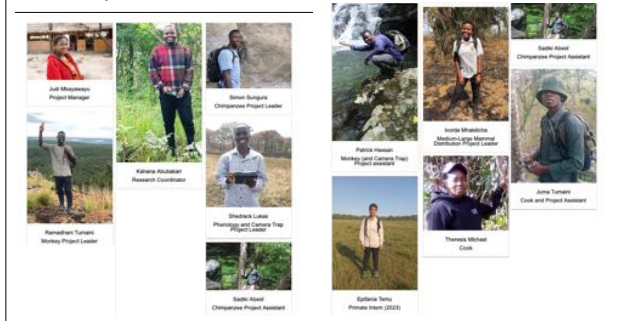


Dry season Valley and wet Season Valley

Mating and Power

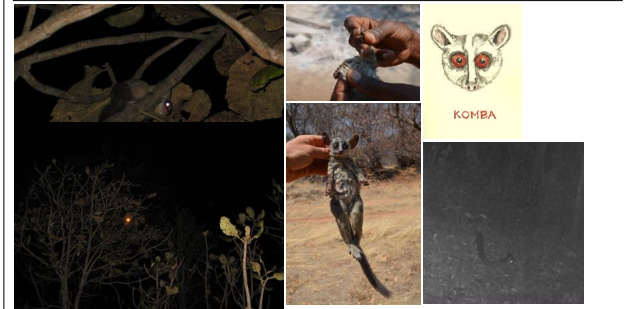
Korean Educational Broadcasting documentary on Sexual Selection featured Issa Valley in 2022.

Issa Valley Research Team



The Issa Team

Issa Valley Prosimians



A bush baby (Galago). These nocturnal prosimians are absolutely amazing jumpers. Their eyes reflect flesh light beams, allowing them to be found relatively easily right outside the camp!

Non-human primates & Issa Valley: Prosimians

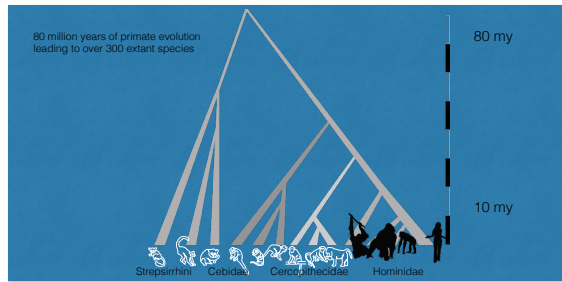


Greater bushbaby (*Otolemur crassicaudatus*) in a fig tree

<https://www.wildsolutions.nl/garnettii/>

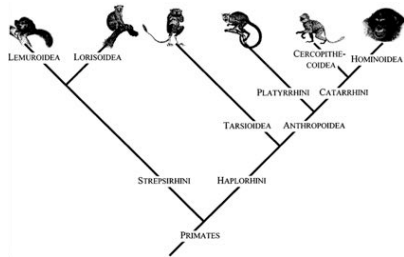
Otolemur, the greater Bushbaby, have a range of amazing call

Issa Valley Prosimians: Primate Phylogeny



Prosimians: relatives of Lemurs (Madagascar) and Lorises (Asia)

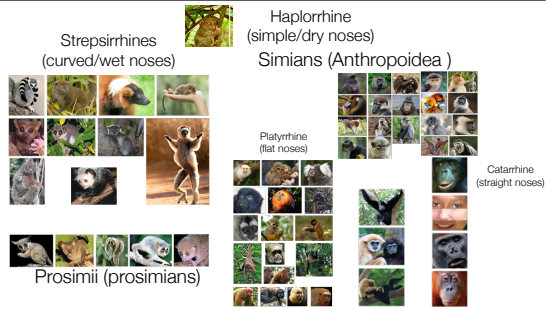
Issa Valley Prosimians: Primate Phylogeny



Lindfors, Patrik & Tulberg, Birgitta. (1998). Phylogenetic analyses of primate size evolution: The consequences of sexual selection. Biological Journal of the Linnean Society, 64, 413 - 447.

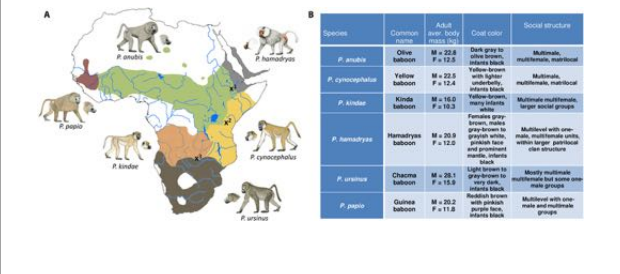
Primate phylogeny

Primate Noses



Visual guide to the major primate taxonomic groups..all based on noses...

Issa Valley Primates: Baboons



Baboon Taxonomy

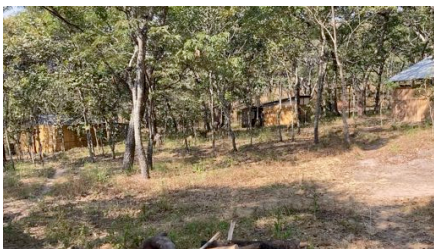
Likely over 1 million baboons living in Africa.

Non-human primates & Issa Valley: Yellow Baboons



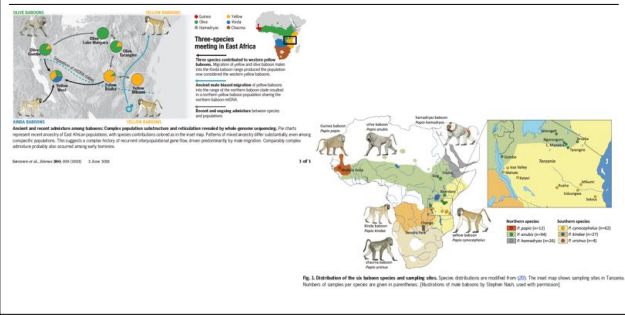
Yellow baboons on Issa on *Brachystegia* tree, with *Julbernardia* and *Isoberlinia*, these nitrogen fixing tree species define the Mambo ecosystem.

Non-human primates & Issa Valley: Yellow Baboons



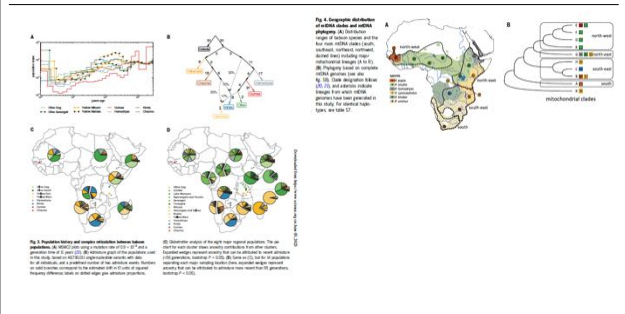
Yellow baboon cruising through camp at Issa

Issa Valley Primates: Baboons



Recent genomic studies reveal three way hybridization

Issa Valley Primates: Baboons



With complex patterns of admixture between neighboring species.

Non-human primates & Issa Valley: Red tailed monkeys



Cercopithecus ascanius: red tailed monkey, KIMA in Kiswahili

Non-human primates & Issa Valley: Red tailed monkeys



Kima eating a bush mango

Non-human primates & Issa Valley: Red tailed monkeys



more red tailed

Non-human primates & Issa Valley 2012



Jim Moore seeing local chimpanzees for the first time!

Non-human primates & Issa Valley 2012



Very brief encounter with a large male in 2014

Non-human primates & Issa Valley 2014



video recording from 2016 which was recorded as our group was less than . 100 feet away



Grooming in Gombe

4 year old Google suckling from his mother Gaya



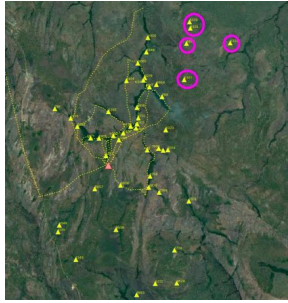
Red colobus in Gombe



Primates at Issa Valley

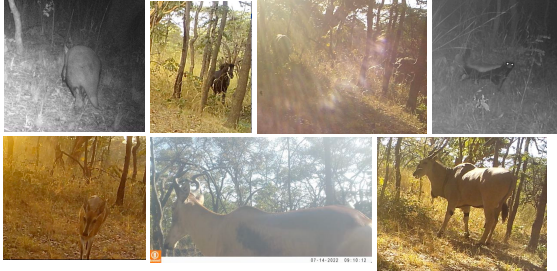


Non-human primates & Issa Valley field site with camera traps



Aerial view of research site at Issa Valley with location of all camera traps

Mega fauna at Issa Valley



large animals passing by the Eastern most located camera traps: arvaark, Sable antelope, buffaloes, honey badger, bushbuck, hartebeest, eland

Issa Valley Wild Dogs



painted dogs

Issa Valley Wild Dogs



chimpanzee chasing away painted dog pack

Nets and traps

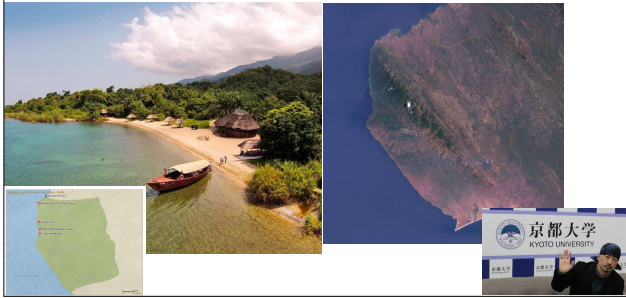


Modern snare in Tanzania. Ranger about to destroy the illegal hunting tool. Collected snare ropes from one day's patrol.



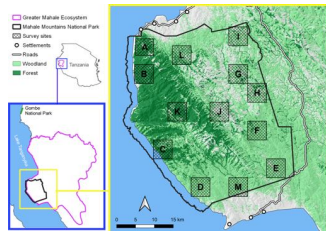
Shedrack inactivating a snare trap.

Mahale National Park



Mahale National park

Mahale National Park



Chitayat AB, Wich SA, Lewis M, Stewart FA, Piel AK (2021) Correction: Ecological correlates of chimpanzee (*Pan troglodytes schweinfurthii*) density in Mahale Mountains National Park, Tanzania. PLOS ONE 16(6):

Survey by Alex Piel and Colleague

Mahale National Park

Southern Lesser Galago

Galago moholi

Howland's Galago Subgenus: *Mungotrys*

Taxonomy: The subspecies found in Mahale Mountains National Park is the *moholi* lesser galago: *Galago moholi moholi*.



Photograph by Ernest A. Beaman

Description: Medium-sized galago with white nose stripes. Ears large. Eyes orange. Body and tail mottled grey.

Body weight:
Adult females = 150 (range 126 - 170) g
Adult males = 177 (range 145 - 212) g



Photograph by Ernest A. Beaman

Mahale National Park

Silver Greater Galago

Otlemur crassicaudatus

Kiswahili: Komba Kibongozi: Mung'anya

Taxonomy: The subspecies found in Mahale Mountains National Park is the member silver galago, *Otlemur crassicaudatus monteni*.



Description: The largest galago (Bushbaby). Muzzle robust and blackish. Ears large and pinkish inside. Silvery grey above and off-white to grey below. Tail long, full, and silvery-grey.

Body weight:
Adult females = 1.1 kg (range 0.9 - 1.6) kg
Adult males = 1.3 kg (range 1.0 - 1.9) kg

Distribution: South and east of the Congo Basin. Throughout most of Tanzania.

Silver Monkey

Cercopithecus mitis

Kiswahili: Kima Kibongozi: Nkima

Taxonomy: The taxonomy for this species is under debate. The subspecies found in Mahale Mountains National Park remains to be determined. This subspecies belongs to a group of monkeys that is commonly referred to as the 'blue monkey'.



Description: Medium-sized, arboreal monkey. Back silvery grey. Top of head, outer limbs, and tail blackish. Grey below.

Body weight:
Adult females = 3.9 (range 2.3 - 5.3) kg
Adult males = 5.8 (range 3.7 - 7.8) kg

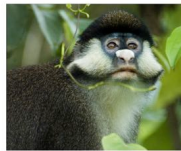
Distribution: Widespread across tropical Africa and over south-east Africa. The most widely distributed forest monkey in Africa. Present in most of Tanzania's forests.

Red-tailed Monkey

Cercopithecus ascansus

Kiswahili: Nyani mweyye miki mwekundu Kibongozi: Nibagajugu

Taxonomy: The subspecies found in Mahale Mountains National Park is Schreider's red-tailed monkey, *Cercopithecus ascansus ashrafi*.



Description: Medium-sized, arboreal monkey with a heart-shaped, white nose spot. Upper parts brown. Under parts cream. Tail mostly reddish.

Body weight:
Adult females = 2.8 (range 2.1 - 3.8) kg
Adult males = 3.7 (range 3.0 - 4.8) kg

Yellow Baboon

Papio cynocephalus

Kiswahili: Nyani Kibongozi: Ngaji

Taxonomy: The subspecies found in Mahale Mountains National Park is the kind yellow baboon, *Papio cynocephalus kindae*.



Description: Large monkey that is often on the ground. Yellow-brown above and off-white below. Muzzle long and black. Bare pink skin around eyes.

Body weight:
Adult females 13 (range 11 - 15) kg
Adult males 26 (range 22 - 30) kg

Distribution: Occurs from Somalia southwards through eastern Kenya, most of Tanzania to the Zambezi Valley, then west through southern Democratic Republic of Congo and Angola to the Atlantic Ocean.

Vervet Monkey

Chlorocebus pygerythrus

Kiswahili: Tumbi Kibongozi: Janda

Taxonomy: The subspecies found in Mahale Mountains National Park is the most green-vervet, *Chlorocebus pygerythrus subvirens*.



Description: Medium-sized monkey that is often on the ground. Olive-yellow above and white below. Face black with white cheek whiskers and brow, forming a ring around face. Hands, feet and tail tip black or blackish.

Body weight:
Adult females = 4.1 (range 3.4 - 5.3) kg
Adult males = 5.5 (range 3.9 - 8.9) kg

Distribution: Eastern and southern Africa. Over most of Tanzania.

Angolan Colobus

Colobus angolensis

Kiwañhi: Mbanga Kibongo: Nkugungu



© 2007 Steve Kemp

Description: Medium size black and white arboreal monkey with long white hair on the cheeks and shoulders (opposite sex).

Body weight:
Adult females = 7 (range 5 - 8) kg
Adult males = 9 (range 6 - 12) kg

Distribution: Found only in Equatorial Africa from northern Angola eastwards to the montane and coastal forests of Tanzania and Kenya. Present on the ridges of the northern Mahale Mountains.

Red Colobus

Procolobus rufimitratus

Kiwañhi: Munga Kibongo: Nkugungu



Taxonomy: The subspecies found in Mahale Mountains National Park is the only red colobus *Procolobus rufimitratus rufimitratus*.

Description: Medium size arboreal monkey. Top of head rusty red. Upper parts blackish. Underparts light grey to off-white.

Body weight:
Adult females about 6 kg
Adult males about 11 kg

Ma

Checklist
Primates of the Mahale Mountains National Park

Seen:



Southern Lessor Galago



Silver Greater Galago



Vervet Monkey



Silver Monkey



Red-tailed Monkey



Yellow Baboon



Angolan Colobus Monkey



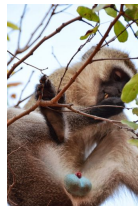
Red Colobus Monkey



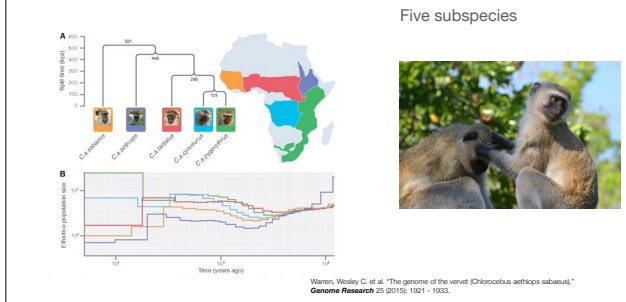
Robust Chimpanzee

Primate check sheet for Mahale

Vervet monkeys in Kigoma



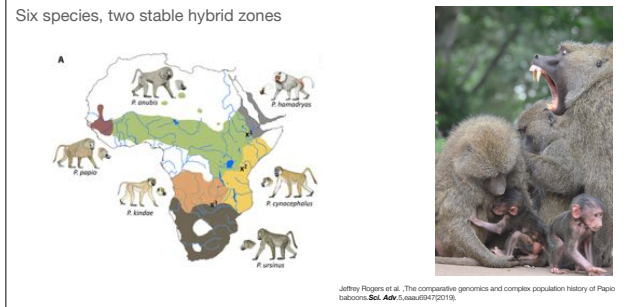
Zoogeography: vervet monkeys



The phylogenetic tree, geographical distribution, and population history of vervet subspecies. (A) Subspecies relationships were obtained by applying a clustering algorithm to the pairwise distance matrix. The tree is rooted using rhesus macaque as an outgroup, and the estimated geographical distribution of each subspecies based on previous field studies used to characterize endangered species (www.iucnredlist.org) is displayed to the right. (B) The inferred effective population size across time (both on log-scale) for each subspecies sample inferred with the multiple sequentially Markovian coalescent (MSMC) software in two-haplotype mode (Schiffels and Durbin 2014).

Zoogeography: baboons

Six species, two stable hybrid zones



(A) The appearance and current distribution of each baboon species, and the locations of three well-documented active hybrid zones are also shown. x1: hybrid zone between *P. hamadryas* and *P. anubis* (19, 28), x2: hybrid zone between *P. cynocephalus* and *P. anubis* (17, 26), x3: hybrid zone between *P. kindae* and *P. ursinus* (18). Drawings of each species by S. Nash. (B) Distinguishing features of *Papio* species. Body mass data from (16, 59) and unpublished data from J.P.-C., J.R., and C.J.J.

Vervet monkeys in Arusha, 4,500 feet (1400 meters)



Non-human primates & Issa Valley



Vervet inspecting luggage



Chimpanzee eating termite mushroom.