Secret to Olive Baboon Survival in a Barren Desert

Yvonne de Jong & Thomas Butynski

Yvonne de Jong is a National Geographic grantee working to track down what may be Africa's least understood large animal, the Desert Warthog.

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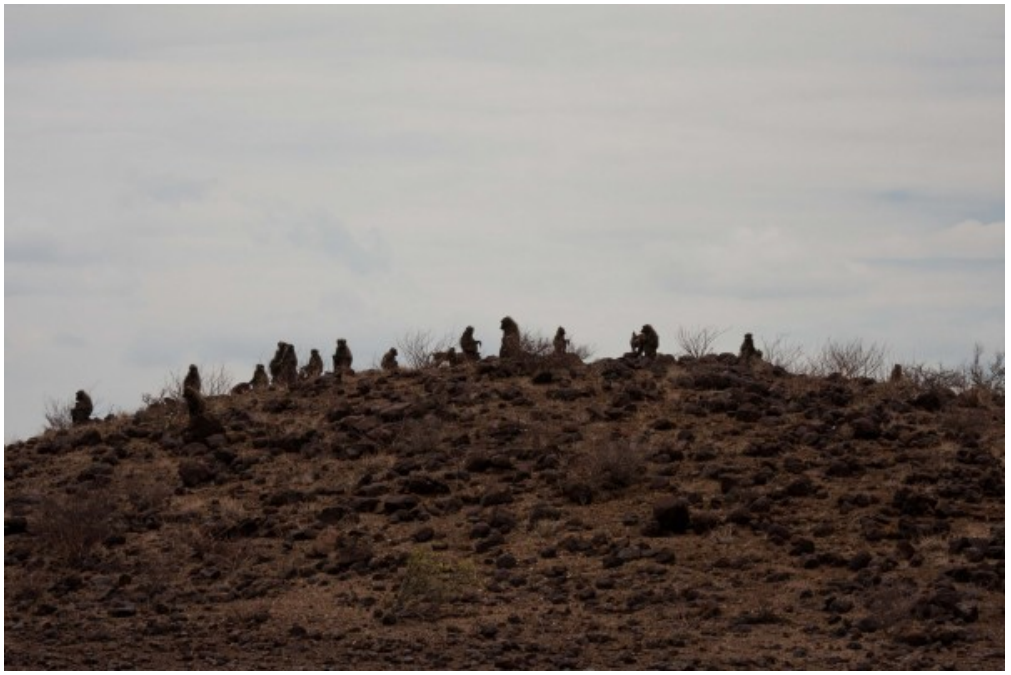
We have trained eyes for detecting primates, but it took a little while for us to realize that we were looking at a group of olive baboons (scientific name: *Papio anubis*, Kiswahili name: nyani). The setting here, between the eastern shore of Lake Turkana and the western edge of the Chalbi Desert, is new to us. On a distant rocky hill, surrounded by expansive black lava plains with a sparse cover of thorny acacia (*Acacia* species) and commiphora (*Commiphora* species) bush and badly damaged toothbrush trees (*Salvadora persica*), a group of olive baboons is resting…all eyes fixed on us. The group must have seen, or at least heard, us approaching from miles away. While battling refraction (bending heat waves) from the extremely hot ground we count 54 individuals.

Despite our numerous encounters with baboons in arid regions, we are surprised to find olive baboons in this 'bone dry' area. Over the past few days we have seen a few groups in Sibiloi National Park, 23 km to the north-west, but this area is even dryer and more desolate than Sibiloi….'what on earth do these baboons feed on?…and where do they go to drink and sleep?'…we questioned while peering through our binoculars.

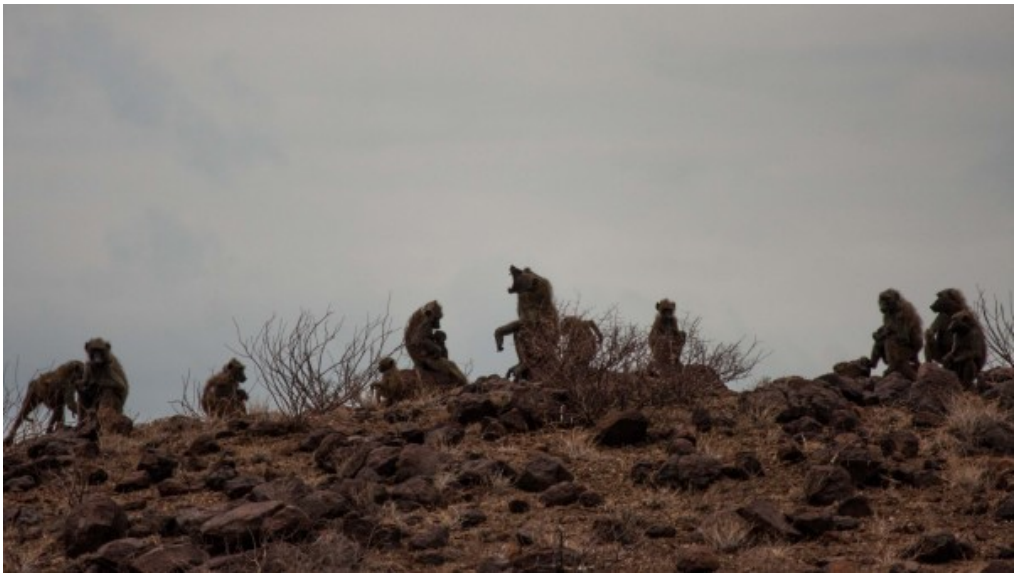


Olive baboons (*Papio anubis*) resting and grooming, but alert, on a hill to the east of Lake Turkana. Photographs by Yvonne de Jong and Tom Butynski.

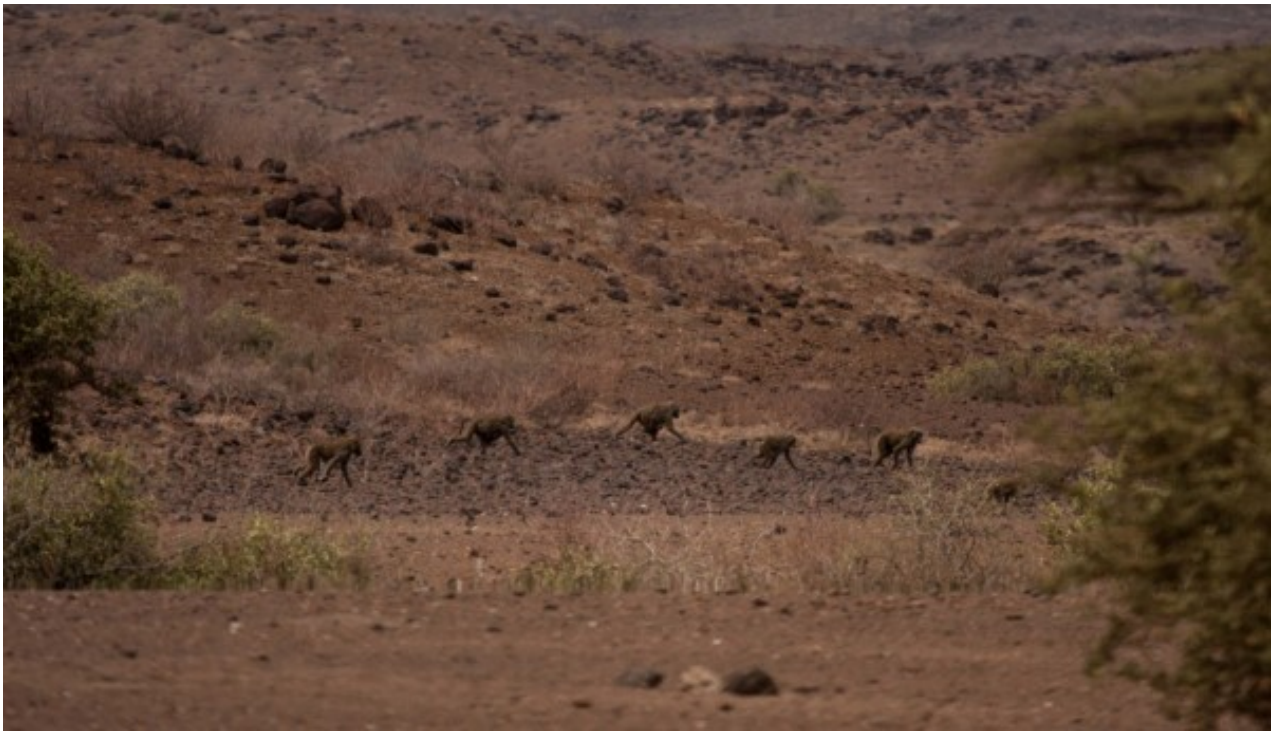
Kenya supports at least 12 genera, 19 species and 24 subspecies of primates and, together, they occupy almost all terrestrial habitats that Kenya offers. The forests support the highest diversity and densities of primates, the deserts the lowest. The semi-arid habitats of northern Kenya harbor three semi-terrestrial diurnal primate species [olive baboon (*Papio* anubis), vervet monkey (*Chlorocebus pygerythrus*), patas monkey (*Erythrocebus patas*)] and two arboreal nocturnal primate species [northern lesser galago (*Galago senegalensis*), Somali galago (*Galago gallarum*)].

The olive baboon is the most widely distributed primate in Kenya as it occupies the greatest range of habitat types. Although we have encountered olive baboons in forests, they are typically a species of savannas, bushlands and woodlands. To the north of the deserts of Kenya, in Ethiopia and in Eritrea, olive baboons

occur in semi-arid steppe where the average annual rainfall is as low as 300 mm. Here, east of Lake Turkana, the average annual rainfall is less than 200 mm and it may not rain for several years. The deep luggas (seasonal rivers), however, indicate that it occasionally rains heavily.



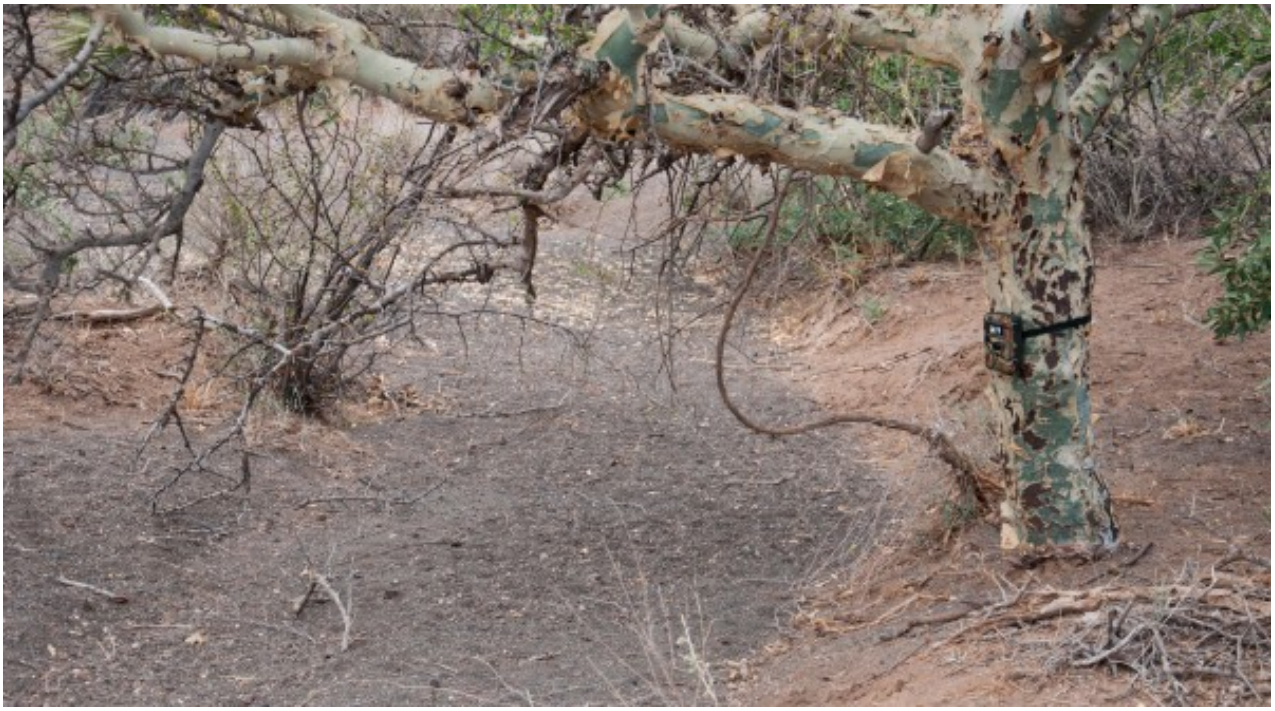
It is the end of the dry season and there appears to be no nearby source of drinking water. We have driven many kilometers without seeing any water. Since olive baboons need to drink every few days we assume that there is water somewhere in area. Since baboons in arid areas also need high cliffs on which to sleep at night (in order to avoid predators), we also assume that are cliffs somewhere in the area.



Olive baboons (*Papio anubis*) on the move east of Lake Turkana. Photograph by Yvonne de Jong and Tom Butynski.

Setting-up camp and installing camera traps on the banks of a large lugga about 7 km south of our baboon encounter, we hear another group of baboons. The large, dense, tall groves of doum palm (*Hyphaene thebaica*) and other trees along the banks of the lugga appear to provide a vital source of food and cover for baboons and many other species.

Camera trap attached to a commiphora tree east of Lake Turkana (595 m asl), north-central



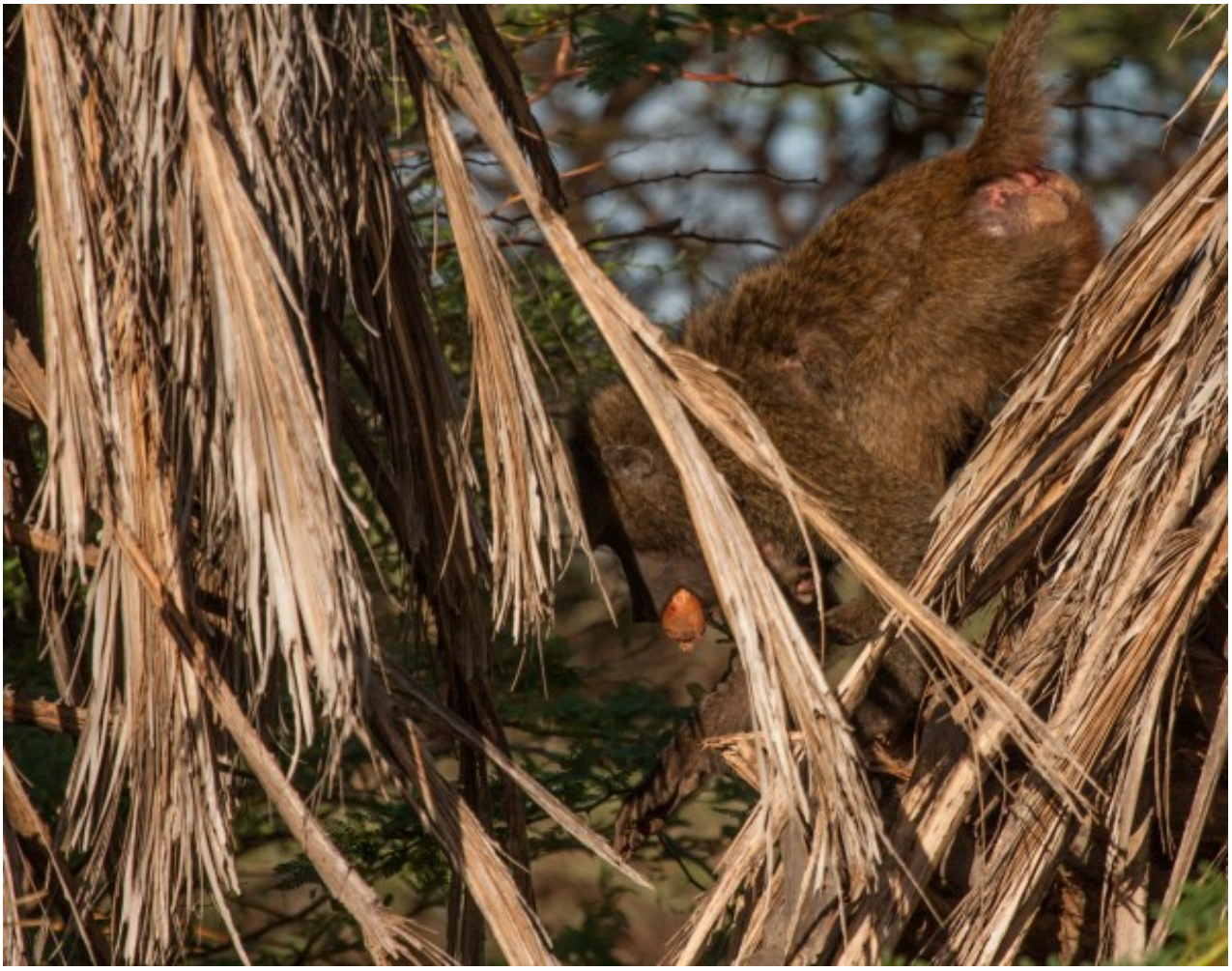
Kenya. In this riverine vegetation, our 11 camera traps captured, during one night and early morning, olive baboon (*Papio anubis*), common genet (*Genetta genetta*), common warthog (*Phacochoerus africanus*), North African crested porcupine (*Hystrix cristata*), and black-backed jackal (*Canis mesomelas*). No surface water was found in this area. Dense groves of doum palm (*Hyphaene thebaica*) were, however, present. We suspect that the fruits of doum palm are a vital food for these baboons, warthogs and porcupines. Photograph by Yvonne de Jong and Tom Butynski.

Doum palm, are one of the tallest (up to 15 m) and most common (and often dominant) tree species on the banks of Kenya's luggas, rivers and oases. The fruit is large, often abundant, and has a water content of >24%. The shoots of the germinated seeds are eaten by people, baboons and other species. We have encountered baboons feeding on doum palm fruits at many sites throughout the lower, drier regions of Kenya.

Adult female olive baboon (*Papio anubis*) feeding on a doum palm fruit at Kalacha, an oasis in the Chalbi Desert of central northern Kenya. Photograph by Yvonne de Jong and Tom Butynski.

Baboons need to drink at least once every 2 days. Like humans, they dig 'wells' in dry river beds to access ground water. To conserve body water they are largely inactive during the heat of the day…resting in dense shade. The water that baboons extract from their foods (fruit, shoots, roots, leaves, meat), together with what little drinking water is available, is enough to sustain a low density population through the driest periods in arid sites such as on the edge of the Chalbi Desert and around Lake Turkana. As the doum palm appears to produce the largest amount of fruit of any tree in northern Kenya, we believe that this is a keystone food species for the olive baboon in this region. In addition, the groves of doum palm also provide baboons with dense shade and refuge from predators.

Juvenile olive baboon (*Papio anubis*) feeding on a doum palm fruit (*Hyphaene thebaica*) in Samburu National Reserve, central Kenya. This tree appears to be a critical source of food, water, shade and refuge for baboons in the arid and semi-arid regions of Kenya. Photograph by Yvonne de Jong and Tom Butynski.



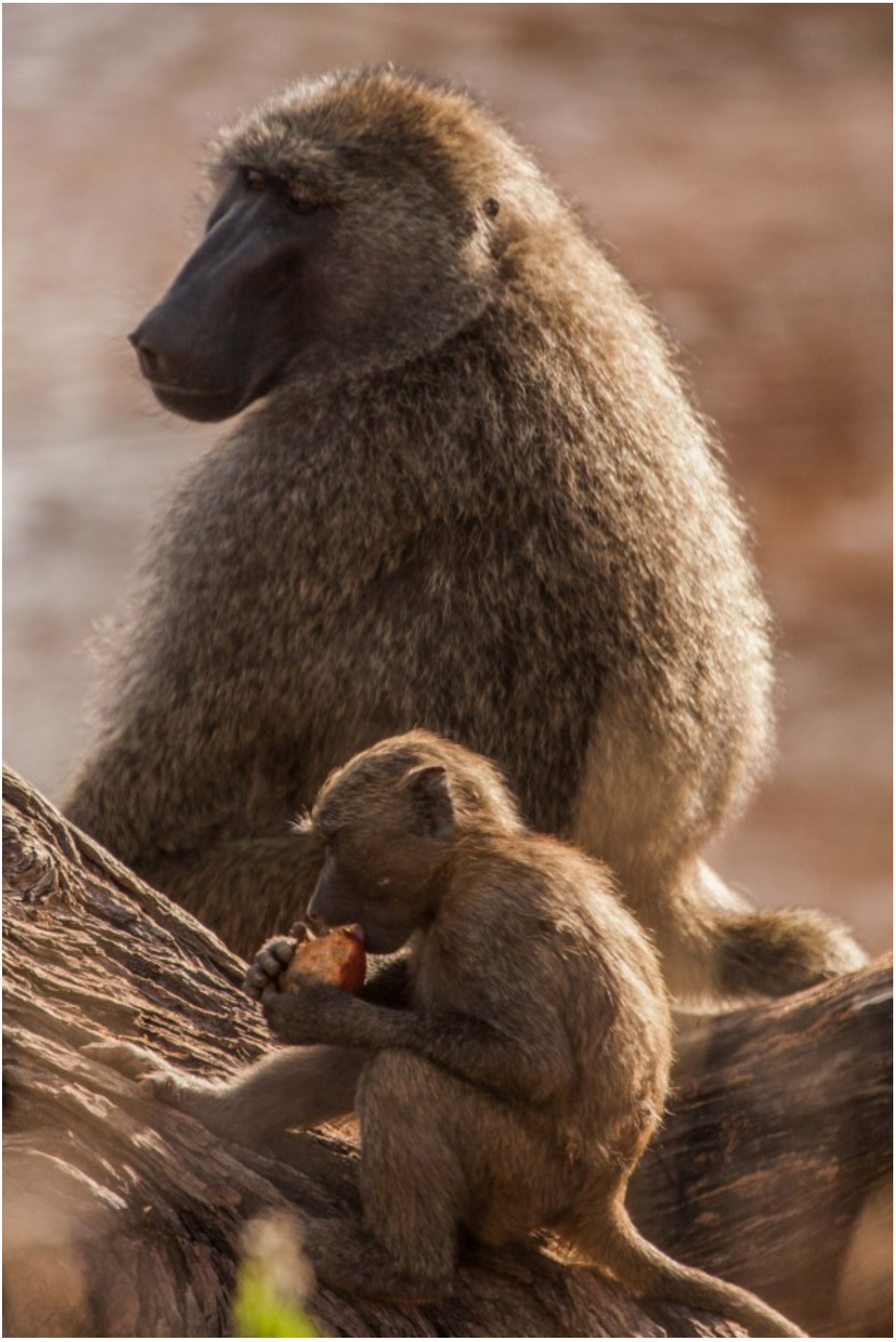
Baboons are highly opportunistic and adaptable and, therefore, able to exploit a large range of foods as they become available. During one of our surveys in northern Kenya we encountered an abundance of locusts (family: Acrididae)…they were literally ‘everywhere’….all over the ground, in our vehicle, in our tents, and on us. Locusts, being rich both in protein and water, are an excellent, although seasonal, food for many animals, including baboons. We suspect that locust are another important food for the baboons of northern Kenya.

That night we camped within a grove of doum palms…which is always ‘interesting’. All past experience tells us that doum palms should be avoided if one wishes to get a good night’s sleep. The large, course, often dry, palm leaves rustle loudly in response to even the slightest breeze, while the ‘infrastructure’ of the doum palm groves encourages activity at every level at all times of the night. That night a large cat (probably a leopard) walks past our tents and then, noisily, chases at least one common warthog (*Phacochoerus africanus*) through the abundant, dry palm leaf litter…evoking alarm calls from baboons.

The next morning we are pleased to see that our camera traps have ‘captured’ a group of baboons as it traveled along the bed of the lugga. Our ‘irresistible’ bait has also attracted other creatures…a common genet (*Genetta genetta*), a North African crested porcupine (*Hystrix cristata*), a black-backed jackal (*Canis mesomelas*), and a sounder of common warthogs. In an earlier blog (‘Where warthogs roam at night’) we speculate about the strategy that the common warthog has adopted to endure the dry environment of northern Kenya and mention the role of the doum palm in that strategy.

The Egyptians, long ago, recognized the importance of the doum palm in the ecology of the arid areas of north-east Africa, declaring it a sacred tree, and planting it with the belief that it would protect their dead and supply them with food and water in the after-life.

The doum palm (*Hyphaene thebaica*) appears to be a keystone tree species for many



mammals in northern Kenya, providing food, water, shade, and refuge. Notice the abundant, large, fruits and the dense cover provided by the leaves. Photograph by Yvonne de Jong and Tom Butynski.

Two adult common warthogs (*Phacochoerus africanus*) captured by a camera trap in a doum palm grove east of Lake Turkana (595 m asl), north-central Kenya.

Footnote

Baboons have a bad reputation in many places in Africa as they are often in conflict with humans. With Africa's rapidly expanding human population, habitat for baboons is rapidly being degraded, fragmented and lost. As such, baboons frequently raid crops and enter homes, lodges and camps in search of food. An overview of the causes and effects of the complex baboon-human conflict can be accessed at: 'Guess who's coming to dinner'.

In order to address human – nonhuman primate conflicts, and to help ensure the long-term survival of all of Kenya's primates, the Kenya Wildlife Service (KWS) initiated the 'National Primate Conservation Task Force' (NPCTF) in early 2013. The Task Force has the mandate to compile primate conservation management plans, set primate conservation priorities, and advise KWS on matters related to primate conservation. For more information, visit: http://www.wildsolutions.nl/taskforce.htm

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