

Bird of the Year 2024

Bateleur

Lesson 5

TOPIC: Diet and Feeding	
GRADE: 4-6	
CRITICAL & DEVELOPMENTAL OUTCOMES: Ecology of the Bateleur	
LINKS WITH PREVIOUS LESSONS: More about the Bateleur	LINKS WITH NEXT LESSONS: Habitat happenings
FORMS OF ASSESSMENT: Group work and retention of information	RESOURCES: Included worksheet/s
LEARNING ACTIVITIES & ASSESSMENT:	
<p>Background</p> <p>The Bateleur is a dietary generalist, which means they can eat a variety of foods and thrive in a range of habitats. They hunt on the wing, flying mostly low and straight whilst scanning the ground, occasionally banking (this refers not to the consequence of turning, but the cause of it) and retracing sections of the track, when and where possible, until they spot their prey. A hunting range can span between 55 to 200 km². Bateleurs spend up to eight to nine hours an equivalent of 80% of daylight on the wing, largely for hunting and foraging purposes, and have been reported to have covered as much as three hundred to five hundred kilometres in a single day.</p> <p>When potential prey or food is spotted, they then descend in tight spirals to check it out. The Bateleur is a very effective in locating carrion and often is the first species to arrive at large carcasses or roadkill. Studies on the diet of the juvenile Bateleur indicate that carrion is more significant to the food source of juveniles and immature Bateleurs compared to adults.</p> <p>Although the Bateleur will feed on carrion and carcasses, the description of this species as “not a very greedy species” is very misleading. They are found to be a highly powerful predator for its size and are greatly active at pursuing live prey. Most of the food consumed during the breeding season is prey that the Bateleur has killed itself. Bateleurs kill most of their prey on the ground. They will steeply stoop down, with partially closed wings or alter their stoop onto prey with a slow drop with raised wings, rather in a gentle descent like a parachute. This is evident when taking slower moving prey such as some reptiles.</p> <p>Bateleurs have been known to take birds on the wing as well as on an occasion, employing a kleptoparasite behaviour– robbing other raptors of their catch. Alternately, they may try to capture other raptors' kills while the raptor is feeding on them, whether it be on the ground, in a tree or on a rock, or even immediately after the kill is made. These piratical attacks are carried out against large carrion eaters like vultures and even against larger eagles. They may drive their target to the ground, interlocking talons or trading shallow blows with their feet. Bateleurs also hunt insects by walking on the ground, particularly after veldfires, and will patrol for small carcasses alongside roads.</p>	

Bateleurs forage almost entirely based on opportunity and have no specialization on any prey type. As a result, a wide prey range has been reported, with around 160 known prey species. They rival the Martial Eagles (*Polemaetus bellicosus*) and perhaps just slightly behind the Tawny Eagle (*Aquila rapax*) as the most diversified feeder known among African eagles. Among their prey, mammals, birds and reptiles seem to be considerably preferred over other prey. The most complete picture of the Bateleurs' diet was a study that compiled 1879 prey items from differing parts of the range. In it was found that Bateleurs derived 54.6% of the diet from mammals, with perhaps two-thirds to about half of the diet being mammalian carrion, along with 23.7% of the diet being from birds, 17.8% from reptiles, 1.9% from fish, 1.8% from invertebrates and an extremely small amount (about 0.2%) of amphibian sources. Preys was unidentified to species, with 58.4% of the carrion sources, 26.9% of live mammals, genera, or families, and 22.2% of birds unidentified to species.

In general, the primary food sources of Bateleurs are live-taken medium-sized mammals, carrion of generally larger mammal species, rather smallish bird prey, and a small diversity of reptiles. When selecting mammals, small prey such as rodents and shrews are by no means neglected but a preference for relatively large rodents and South African springhares although certainly any consumption of adult Cape porcupine is derived from carrion. Most African species of hare as well as, more secondarily, hedgehogs and elephant shrews and a variety of smallish carnivorous mammals. This includes live prey species including several species of mongoose, from Dwarf to Banded Mongoose, about the same body mass as a Bateleur, and at least four species of genets as well as Striped Polecats. Over thirty mammal species have been identified as a food source for Bateleurs aside from carrion, including various larger food species, with carrion of ungulates ranging in size from that of Sharpe's grysbok to African Buffalo and the carrion of carnivores from the size of jackals to that of Lions. In compilation studies, the most often fed-on ungulates (hoofed mammal) by Bateleurs that were identified to be impala and steenbok, at 4.2% and 2.2% of the total foods, respectively .

In all, a considerable diversity of birds may be taken by bateleurs, perhaps around 80 species being known in their prey spectrum. They often focus on rather small birds compared to other eagles of a similar size. Bateleurs may show a special liking for pigeons and doves as prey, although only about a half dozen have been identified to species level. The reason for the disinterest in mid-sized to large avian prey of sizes comparable to some mammals and reptiles are known to have been taken by Bateleurs is not clear, as the Bateleur does not, in general, appear to shy away from difficult-to-capture birds nor to large and dangerous prey of other animal classes.

The Bateleur was once reported to be a very common predator of reptiles like their cousins the snake eagles. As much as 30% of the diet can be reptilian, mainly snakes. Some reptiles taken are small and innocuous such as a few species of plated lizards and a few species of colubrid snakes. However, like their cousins, the Bateleur does not seem to shy away from venomous snakes nor other large or formidable reptiles. They have been known to take puff adder, boomslangs and Egyptian cobras, accounting for 18.9% of reported reptile prey and 3.35% of total prey. They can take sizable snakes, even adult puff adders which can grow much heavier than the Bateleur themselves. However, the Bateleur is not immune to venom nor is as well specialized to dispatching venomous snakes as are snake eagles, and, in one case, a mutual killing recorded between a puff adder and a Bateleur was reported. Sizable, and far from defenceless, if not venomous reptiles known in the prey spectrum may include monitor lizards including Nile and savannah monitors, some terrapins and tortoises and African rock pythons, although excepting small, young

ones, these types of reptilian prey are perhaps in many cases consumed after they are already deceased, such as via roadkill. Nevertheless, Bateleurs occasionally hunt small tortoises and monitor lizards, and in one instance, live predation on an adult monitor lizard about 1.4 m in length has been reported.

The Bateleur is known to carry snakes to the nest in the style of ordinary snake eagles, with the dead snake being half swallowed and subsequently extracted by the capturing bird's mate, usually the female at the nest. Seldom identified prey may include assorted, and almost entirely unidentified, insects. Mostly swarming social insects seem to attract Bateleurs, including locusts. It was recently verified that Bateleurs will semi-regularly visit termite mounds to hunt down alates, although such feeding has been inferred in the past. Other prey can include a rare amphibian, none of which are known to be identified to species or family. Although fish are not typically taken, as much as 1.1% of the diet locally can consist of large catfish and it is likely that stranded fish are not neglected when opportune upon.

The Bateleur seems to adapt to living in the highly competitive continent of Africa by foraging with a lack of specialization although its highly aerial and free-ranging foraging mode is quite unique. The Bateleur, must face considerable and intense competition from other birds of prey. The range of other raptors, especially other eagles and vultures, may appear to be daunting. One of the most similar eagles to regularly encounter the Bateleur is the Tawny Eagle. These two species overlap in many significant ways, being similar in body mass and predatory prowess as well as in nesting habitat, tendency to attack a wide size range of prey (including large prey) and general disposition. Furthermore, both show the ability to freely change feeding methods between live predation, scavenging on carrion and piracy.

Bateleurs may encounter a huge range of other scavengers when coming to carrion too. Most clearly vultures are often present at carrion. However, due to their smaller size, the Bateleur can begin foraging for carrion earlier in the morning, while the vultures must wait for updrafts to undertake flight. Bateleurs are considered most likely to find a carcass first before other scavengers. This was verified in a study in Maasai Mara where it was additionally found that scavengers kept to body size in terms of hierarchy. The descending order of scavenger dominance was stated to rank starting with the spotted hyenas, black-backed jackals and feral dogs, then the Lappet-faced Vulture, the Rüppell's Vulture, followed by all other vultures with the Tawny Eagle and the Bateleur in the second most and the most subordinate scavenger positions. Therefore, the Bateleur is considered a scavenger with high search efficiency but low competitive ability.

Cases are known where Bateleurs have attacked and dominated much larger scavenging birds including White-backed Vultures and Bearded Vultures, with these having been successfully displaced or lost carrion to a Bateleur. Even more impressively, cases where Bateleurs interacting with much larger, more powerful Martial Eagles have involved instances where the Bateleurs have attacked, pirated, and even brought eagles to ground in clashes that appear to end in a draw. However, the Martial Eagle occupies a notably higher trophic level than the Bateleurs and is not considered subservient to Bateleurs due to its even greater predatory prowess. Instances of competition have been reported between Bateleurs and African Fish Eagles, which are similarly prone to opportunistic piracy and aggressive interspecific relations. However, the two species are partitioned by habitat and primary prey.

It is uncommon-to-rare that Bateleurs may prey on other raptors. Bateleurs have been

documented preying on Black-winged Kites, Gabar Goshawks, Barn Owls, Spotted Eagle-owls and Peregrine Falcons. They were considered a likely potential predator upon nestlings of the White-backed Vulture. Certainly the most impressive instance of intraguild predation (a combination of predation and competition as both species rely on the same prey sources and also benefit from preying upon one another) documented as committed by Bateleurs is when one was seen killing an adult Verreaux's Eagle owl, a formidable top predator among owls and possibly the largest avian prey ever reported for a Bateleur. The predators of mature Bateleurs themselves are not well-documented and in fact, Verreaux's eagle owls may be the only species verified to repeatedly prey upon Bateleurs, but this is probably due to rare predator identification at Bateleur nests.

Bateleurs are usually considered apex predators. By contrast, Bateleur nestlings are vulnerable to predation compared to other raptors. Though adult Bateleurs simply leaves the nest or crouch below the nest rim to reduce nest detectability to many predators, they can be very aggressive toward conspecifics, belonging to the same species, as well as other raptors, and occasionally human intruders. However, due to their unique foraging mode which takes them far from the nest for long periods of the day, the physical defence is largely unable. Thus, chicks are presumed to be vulnerable to a huge range of predators although very few are properly identified. Based on other eagles in Africa, these are likely to include various sizes of mammalian carnivores, snakes, monitors and various birds of prey, including even perhaps much smaller species and vultures due to the long periods Bateleur eaglets are left unprotected.

Activity:

As you have progressed through this lesson, you will have noted that the Bateleur has a widely varied and number of food sources, from insects to small mammals, from live prey to carrion. Use the following cards of prey items and have the learners create:

1. A trophic pyramid of all the prey – an ecological hierarchy of food interactions. This includes herbivores / primary consumers, carnivores / secondary consumer, tertiary consumer, and quaternary consumers.
2. A food web, using as many of the prey cards supplied. You may need to add some additional cards for vegetation, additional herbivores etc.



Prey cards

Doves

Pigeons

Rodents

Spring Hares

Porcupine

Hedgehogs

Shrews

Impala

Steenbok

Carrion

Puff Adder

Boomslang

Monitor lizards

Small Tortoises

Locusts

Catfish

**Black-winged
Kite**

Barn Owl

