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Feeding ecology of the black-backed jackal

Diet

The black-backed jackal is a generalist and opportunistic omnivore. This means that the animal will eat any available food (particularly food that is easily accessible), including plant material. The diet depends on the abundance of the available food items, and the habitat and climate at any given time. For example, in the central Namib desert plant material & insects form an important part of the diet.

The diet includes:

- Insects and other invertebrates
- Carrion (the remains of dead animals)
- Rodents
- Small and medium-sized antelope species such as steenbok, springbok and impala
- Plant material (berries, seeds, fruits etc.)
- Other small mammals (including hares, rock hyrax and small carnivores).
- Reptiles and amphibians
- Birds (ground-nesting birds and their eggs and fledglings)
- Domestic livestock, including sheep and goats. Cattle are also preyed upon. Horses and pigs have also been reported in the diet of the black-backed jackal.

Small to medium-sized mammals make up the most important part of black-backed jackal diet. Generally, carrion, invertebrates (mainly insects) and plant material also form an important part of the diet.

In protected areas, where larger predators dominate, a large part of the diet is made up of carrion scavenged from their kills. Where animals die of disease, drought or other environmental factors, scavenging will also be the main feeding behaviour of the black-backed jackal. Therefore, if carrion is abundant, it will be the main food item in the diet of black-backed jackals, whether on farmland or in protected areas.

But, although the black-backed jackal has been known as a scavenger, it is a very efficient hunter.

Birds, reptiles, hyrax (dassie) and carnivores generally form only a small percentage of the diet. However, one study documented a high occurrence of hyrax in the diet on farmland in Namaqualand. Here, it was presumed that cultivated fields may draw hyraxes, and that their increased numbers and activity in these more open areas may explain the high occurrence in the diet.

On farms in Natal where cattle were the most common livestock species, rodents were the most dominant food item in the diet, followed by cattle. Predation on cattle is aimed mainly at new-born calves, although black-backed jackals have also been observed actively hunting sick cattle.

During specific times of the year, plant material provides an important food source.

Feeding behaviour

The black-backed jackal adapts its diet to the area and conditions in which it lives.

The influence of land-use on diet

On farmland the main food items in the diet are often livestock (particularly sheep), in combination with wild antelope species and rodents. Sheep and wild antelope remains often appear in the diet in the form of carrion.

Although some studies have found the remains of domestic livestock in the stomachs and scats (faeces) of black-backed jackals from protected areas, the percentage of livestock remains were generally low (less than 7% of the black-backed jackal's diet). One study conducted in the Eastern Cape found no sign of livestock in the diet of black-backed jackals in protected areas.

The main food items in protected areas are antelope, carrion, and insects and other invertebrates.

A study conducted in Namaqualand, documented that black-backed jackal preyed on rodent species that are active during the day on protected areas, while the diet on farmland included rodents that are active mainly at night. This change in feeding strategy may serve to decrease detection on farmlands.

The influence of environmental conditions on diet

Generally, black-backed jackals switch their diet according to the seasonal availability and abundance of different food items in the field. There is a slightly broader diversity of prey in the diet during summer.

During lambing season, black-backed jackals feed almost exclusively on the young of antelope or sheep, when this food source is more abundant and easily obtained. Particularly during winter, when harsh weather conditions may result in the death of antelope and sheep, more carrion is available for black-backed jackals to feed on. In the case of antelopes, black-backed jackals feed mainly on the fawns of hider species. Hider species are those which hide their fawns in tall vegetation away from the herd during the first weeks after birth. Examples are bushbuck and kudu.

A study conducted in the Eastern Cape found that shifts in the diet are more pronounced in protected areas than on farmland. The diet on farms contained more mammals and plant material than on game reserves.

On farmland, sheep lambing seasons in many areas also coincide with the breeding season of black-backed jackal. One study documented that male black-backed jackals kill more livestock during jackal breeding season compared to females to meet increased energetic demands of young pups and possibly also suckling females. During the breeding season, the energy demand of black-backed jackals increase and they need more food to take care of young. During this time, juvenile helpers also bring food to the den. The food is provided by regurgitation. It is assumed that increased energetic demands during the breeding season of black-backed jackals is a very important driver of livestock losses due to black-backed jackal predation on farmland.

Results from studies conducted in different parts of South Africa showed how black-backed jackal diets differed among protected areas in different regions:

- In KwaZulu-Natal, the diet in nature reserves consisted mainly of small mammals and carrion, while the diet on wildlife ranches

consisted mainly of large antelope species, followed by fruit and medium-sized mammals (particularly springbok). In autumn, black-backed jackals start eating more fruits and seeds, and less mammals, while in winter they eat more mammals (particularly antelope) and less fruits, seeds and insects.

- In the Eastern Cape, the diet consisted mainly of mammals and plant material. Carrion made up only a small part of the diet, while insects, fruit and seeds were much more common in the diet on game reserves than on farms. Insects and other invertebrates form an important part of the diet, but are much less common in the diet during winter. As was the case in KwaZulu-Natal, black-backed jackals eat more fruits and seeds in autumn, when this resource is plentiful, and less mammals, while during winter, more mammals and less fruits, seeds and insects are eaten.
- In Namaqualand, the diet recorded in a national park consisted mostly of insects and rodents. The most abundant small antelope species in the national park also made up a fair proportion of the diet.

The diet of the black-backed jackal overlaps with the diet of:

- honey badger
- bat-eared fox
- brown hyaena
- caracal

Consult your local DEA/ DAFF office for legal aspects regarding predation management.

<https://www.ufs.ac.za/natagri/departments-and-divisions/animal-wildlife-and-grassland-sciences-home/alpru/products-and-services>

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