

**The incidence of surplus killing by *Panthera pardus*
and *Felis caracal* in Cape Province, South Africa**

by C.T. STUART

Albany Museum, Somerset Street, Grahamstown 6140, South Africa
Present address: 7 Caledon St., Greyton 7233, South Africa

Surplus killing of domestic stock by leopard, *Panthera pardus* and caracal, *Felis caracal* is a well known phenomenon in a number of small-stock farming areas in Cape Province, but little has been documented (Skinner 1979; Stuart 1981). Kruuk (1972) has discussed surplus killing, but dealt mainly with natural prey. The same author defines surplus killing as follows: «...the killing by a predator of prey, without the killing individual or its offspring or member of the same social unit eating anything from the kill, although there is free access to the carcass, and usually the particular prey species would be eaten by the predator».

In the incidents of surplus killing of domestic stock by leopards and caracal the majority took place in holding pens or against fencelines under intensive or extensive grazing conditions. Of 104 recorded incidents of domestic stock being killed by leopard, 76 (73 %) involved the killing of two or more stock animals. Sixty four (62 %) of the incidents resulted in between two and ten prey animals being killed. The highest number of stock units killed in one incident was 51 sheep and lambs (Table 1).

Seventy nine cases of domestic stock kills were recorded for caracal, of which 17 (22 %) involved the killing of two or more small-stock animals. The highest number of stock animals killed in a single incident was 21 young goats (Table 2). Skinner (1979) recorded an incident where two caracal killed 22 sheep, only eating part of the buttock of one animal.

Although single leopard and caracal were apparently responsible for the majority of recorded kills, a number were confirmed as having involved two or more cats. The occurrence of more than one predator per incident was recorded six times in the case of leopard and eleven times in the case of caracal. This was established by the examination of tracks and the incidence could have been higher because tracks are only left on suitable surfaces.

In 44 cases of surplus killing by leopard only one prey animal was dragged away from the killing site and partly consumed. Distances involved ranged from only a few metres, to one case of an adult sheep having been dragged and carried more than three kilometres. In another incident an adult goat was dragged over one kilometre up a steep hillside. In many cases there had been some attempt to cover the prey animal with soil and plant debris or to drag the prey under the cover of bush or rocks. The surplus stock kills were left at the killing site. Only in seven cases was prey eaten at the kill site. Caracal rarely dragged domestic stock kills away from the killing site, and in all recorded cases only one prey animal was partly consumed.

TABLE 1. — The incidence of surplus killing of domestic stock by leopard *Panthera pardus* in Cape Province.

Stock	No. times stock units killed per obs.					
	1	2-5	6-10	11-20	21-40	+ 40
Sheep/lambs	16	26	12	8	2	1
Goats/kids	—	7	5	1	—	—
Cattle	12	14	—	—	—	—

TABLE 2. — The incidence of surplus killing of domestic stock by caracal *Felis caracal* in Cape Province.

Stock	No. times stock units killed per obs.					
	1	2	3	4	5-10	+ 10
Sheep/lambs	47	4	2	1	1	—
Goats/kids	15	3	2	—	2	2

Leopard were recorded as taking cattle on 26 occasions of which 14 involved the killing of two or more individuals. The highest number killed in one incident was four, but unfortunately no mass or age of many of the prey animals was recorded. The heaviest cattle killed were recorded in two incidents, involving a total of five heifers (estimated mass of 125 to 150 kg). At least three leopards were involved in one of the incidents.

Three incidents of surplus killing of domestic hens (23, 25, 16) were recorded. The first two incidents took place on the same farm, within a few days of each other, with no further kills after a young male leopard, in poor condition, had been trapped on the farm.

In the case of surplus killing of domestic stock, they have not developed (or have lost) adaptive behaviour in order to avoid predators as they are in enclosed areas and are influenced by man-enforced conditions. In leopard related incidents, although a leopard may take more than one kill in quick succession, this is not necessarily wanton for carcasses are normally cached for later consumption, and they will return to such kills even after they have become putrid. With human hunting pressure, this feeding pattern is frequently disrupted.

This work was undertaken whilst the author was in the employ of the Cape Department of Nature and Environmental Conservation. Departmental officials are thanked for reporting confirmed cases of leopard and caracal kills. Peter Norton read an early draft of this short note.