NOTES ON MOVEMENT BY THE BLACK-BACKED JACKAL AND THE AARDWOLF IN THE WESTERN TRANSVAAL

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For some time there has been a need for information on the extent and direction of movement by the black-backed jackal *Canis mesomelas* in the Western Transvaal. This information was sought to try and establish the potential range of the jackal before any attempts are made to develop more sophisticated tracking devices such as telemetry. During the preliminary study some aardwolves *Proteles cristatus* were caught and a few of these animals yielded incidental information on movement by this species. The results presented here are admittedly fragmentary. However, they provide the first documented evidence of long-term movements by the two species concerned. As such they form a basis for further research.

MATERIAL

During the period November 1965 to March 1967, Mr. T. F. Roux, Transvaal Nature Conservation Division, marked and released 71 individuals of *Canis mesomelas* in the districts of Schweizer Reneke, Christiana, Bloemhof and Wolmaransstad. The ages of these animals at capture ranged from very young (approximately 1 month), to old. Mr. Roux also captured and released a young aardwolf about 2 months old, in the Schweizer Reneke district. Mr. M. Keith, another officer of the Transvaal Nature Conservation Division, worked in the same area. In the period May to December 1966 he tagged and released 20 *Canis mesomelas* and 23 *Proteles cristatus*. Thus a total of 91 black-backed jackal and 24 aardwolf were marked and released in the Western Transvaal during a period of approximately 15 months.

METHODS

The animals were captured in a variety of ways, using snares, steel traps with padded jaws, greyhounds and by digging out dens. The last method proved very successful for pups. The added advantage was that more than one animal was obtained per effort. All captured animals were weighed and a numbered metal tag placed in the ear. One ear was also tattooed with the same number as the tag. The tag bore an inscription with instructions on the information needed and where to send it in the event of a recovery. Most animals were released at the point of original capture. All distances recorded here are based on a straight line between the marking and recovery sites.

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RESULTS AND DISCUSSION

Three tags of *Proteles cristatus* and 15 of *Canis mesomelas* were returned. This represents a recovery rate of 12,5 and 16,5 per cent respectively. Details of these returns are listed in Table 1.

TABLE 1

DISTANCE IN KILOMETRE OF TAG RECOVERY FROM ORIGINAL MARKING SITE IN TWO SPECIES OF CARNIVORA FROM THE WESTERN TRANSVAAL.

Species	*Sample Size*	*Approximate age when marked*	*Average distance*	*Minimum distance*	*Maximum distance*
Proteles cristatus	3	Adult	16,1	3,2	35,4
Canis mesomelas	5	2½ months	1,6	1,6	1,6
„ „	3	3 months	2,1	1,6	4,8
„ „	2	6 months	55,5	8,0	103,0
„ „	5	Adult	13,0	1,6	57,9

The greatest distance moved by an aardwolf was that recorded for an adult male marked in August 1966 on the farm Mooifontein in the Schweizer Reneke district. This animal had an injured front foot. Yet it was killed by dogs on the farm Suffolk in the Vryburg district after moving some 35,4 kilometres in 24 days. Another aardwolf male, also adult, was captured on the farm Kareefontein in the Bloemhof district. This animal had previously lost its entire front leg below the elbow. It was transported to the farm Welgedaan in the Christiana district where it was released. Three days later it was killed by dogs 9,7 kilometres from Welgedaan on a direct path from its release site back to its original capture site. The third aardwolf was killed five months after capture. It was 3,2 kilometres away from its release site.

The recovery of tags from black-backed jackal came from animals of several age classes (Table 1). The pups, judged to be 2½ months old when captured, were all recaptured or killed within 2 months of their marking. Thus they were still very young when their tags were recovered. None of them had shown any degree of dispersal yet. Neither did the 3-month-old animals, although one animal was killed a full year after tagging. The only groups showing any degree of movement comprised animals already fairly mature when tagged. The longest distance moved was logged by a 6-month male. This animal was tagged on the farm Vaalboschfontein in the Wolmaransstad district. Eight months later it was killed on Helderpan, portion of the farm Schoonheid in the Christiana district. This involved a movement of 103 kilometres in a straight line.

Extensive movement occurred in adult animals only. The distances involved in some of the cases are surprising and give an indication of what might be expected when telemetry

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studies are designed and executed. This aspect of the ecology of the black-backed jackal is important especially when control efforts are launched. A single problem jackal may well be responsible for damages over a fairly extensive area. Therefore efforts should be made to elaborate this study through the use of telemetry.

SUMMARY

From November 1965 to March 1967, 91 black-backed jackal and 24 aardwolf were captured, marked, and released. The recapture rate was 16,5 per cent for *Canis mesomelas* and 12,5 per cent for *Proteles cristatus*. The maximum distance from marking to recapture site for an adult aardwolf was 35,4 km, the minimum 3,2 km, and the average 16,1 km. The average distance moved by adult black-backed jackal was 13,0 km, the minimum 1,6 km, and the maximum 57,9 km. A young jackal moved 103 km in 8 months from its point of release.

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