nephelus rivulatus (Valenciennes, 1830). The occurrence of the eel is not common, as over 9000 fish have been dissected during the study period.

Fish containing eels were caught along the length of the Natal coast in depths of 45 – 80 m. The eels occurred intermittently in the samples, except during August 1982, when three fish containing eels (two sparids and one serranid) were caught within a few days of each other in the Port Durnford area.

The eels were either *Callechelys* or *Caecula* spp., as they appeared to lack pectoral fins (Heemstra, pers. comm.). Each eel occurred singly, was 'mummified' and was suspended within membranes of connective tissue within the coelomic cavity. None were ever found in the stomachs or intestines of any fish examined. The eels were all loosely coiled, hard and odourless and ranged in length between 170 – 220 mm. They were a uniform brown with no distinctive colour patterns.

Ophichthid eels, subfamily Ophichthini, known as snake eels, are long and slender and have pointed tails, without a fin at the end. They occur in tropical and subtropical waters from the shoreline to depths exceeding 750 m. Many species are benthic and at times may burrow partially or totally into mud and sand, using their pointed tails (Smith 1965; Fischer & Bianchi 1984).

There have been few reports of ophichthid eels in the viscera of fishes. Goode & Bean (1895) first suggested that the eel was a 'parasitic boring form', but at that time little was known about these eels and nothing was known of the significance and use of their pointed tails. Later Suvorov (1948) cited by Walters (1955), stated that snake eels sometimes parasitize the angler *Lophius piscatorius*. Deraniyagala (1932), Breder & Nigrelli (1934) and Breder (1953) have suggested that the situation is probably the reverse, the eels attempting to bore their way out rather than in. Walters (1955 p. 147) supports this hypothesis, suggesting that '. . . the engulfed eel, in its struggles to escape, plunges its sharp tail through the gut wall of the fish and wriggles back through the opening, dying in the coelom soon thereafter'. Smith (1965, p. 388) also supports this idea stating: 'When swallowed alive by other fishes they often pierce the intestines and later become mummified in the belly cavity'.

As ophichthid eels are not parasitic but free-living forms, it would appear that the predators listed in this paper occasionally include them in their diets. When encountered, the eels are obviously swallowed whole. They then manage to bore their way out of the stomach but are apparently not strong enough to escape through the body wall. They consequently die in the coelomic cavity and become encapsulated by connective tissue.

Why so few encapsulated specimens have actually been reported is an intriguing question. Connective tissue within the coelomic cavity is incapable of breaking down a foreign body of this nature. It would eventually calcify but would remain in the tissue. The low number of eels encountered during this study, therefore, cannot be explained in this manner. As no eels have been encountered in the alimentary tracts of any fish examined, it is possible that this eel, probably through its burrowing behaviour, is not normally accessible to these fish and that it is only the occasional free-swimming individual which is preyed upon. Once taken it probably immediately bores its way into the coelomic cavity where it becomes 'mummified'. Another possible explanation is that because of their relatively large diameter (4 – 5 mm) the lesion caused by the passage of the eel through the stomach wall would be fairly large, resulting in acute peritonitis and eventual death of the predators. Some may, nevertheless, survive the encounter.

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A note on the social structure of the kudu, *Tragelaphus strepsiceros*, in an agricultural area

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The mean group size of kudus in an agricultural area was 3,9 and noticeably affected by hunting. A low male : female sex ratio was also recorded, but did not influence fecundity negatively.

Die gemiddelde groepgrootte van koedoes was 3,9 in 'n landbougebied en merkbaar deur jag beïnvloed. 'n Lae bul: koei-geslagsverhouding is gevind, maar het nie die aanteelvermoë negatief beïnvloed nie.

Until recently the social organization of most tragelaphines was poorly understood. This is still true to a certain extent for the greater kudu *Tragelaphus strepsiceros*. Only two detailed accounts of grouping patterns and habitat preferences of kudu have been published and these were of kudus occurring in conservation areas (Underwood 1978; Allen-Rowland-

son 1980). Other, more generalized accounts have been based on incidental observations made during culling operations (Wilson 1965, 1970; Simpson 1966). This lack of information is further evident in reviews of ungulate social organization where several questions, specifically concerning social relations within the tragelaphines, have been posed (Owen-Smith 1975). The majority occur as wild populations in agricultural areas and have had to adjust to such conditions but nothing has been published on the population or social structure of any tragelaphine where it occurs in agricultural areas.

This note describes field observations of 772 kudu group sightings on an intensively farmed agricultural unit (1020 ha of which 720 ha cultivated) near Settlers (28°30'E/24°54'S) from March to October 1985.

A summary is given of the observed group sizes in Figure 1. Of the 772 groups 105 were of 4 individuals and 107 of 5 animals, but slightly smaller groups were common and the mean group size was 3,9. The largest group comprised 20 individuals. Group sizes became progressively smaller from March and increased after August (Figure 2). This disagrees with trends obtained in conservation areas (Underwood 1978; Allen-Rowlandson 1980). From calf observations it was evident that the peak in births occurred from January to March. This then implies the rut to be from June to August (Skinner & Huntley 1971).

The sex ratio of the study population was 0,34♂: 1♀ which is lower than ratios of between 0,45♂: 1♀ and 0,55♂: 1♀ recorded in conservation areas (Mentis 1972; Underwood 1978; Allen-Rowlandson 1980). When considering the calf: cow ratio, the value of 0,19 calves per female for the present study area, compares favourably with 0,11 reported for the Andries Vosloo Kudu Reserve (Allen-Rowlandson 1980).

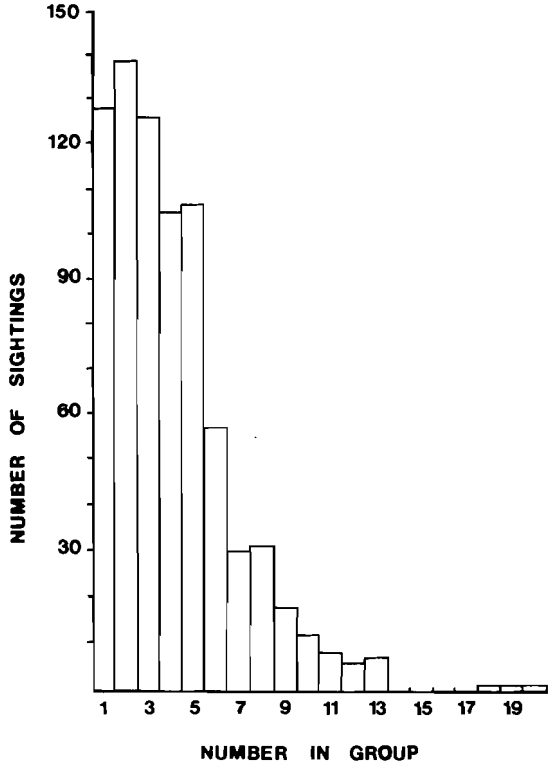

Figure 1 Histogram of the number of each kudu group size that was observed on the Springbok Flats study area between March and October 1985.

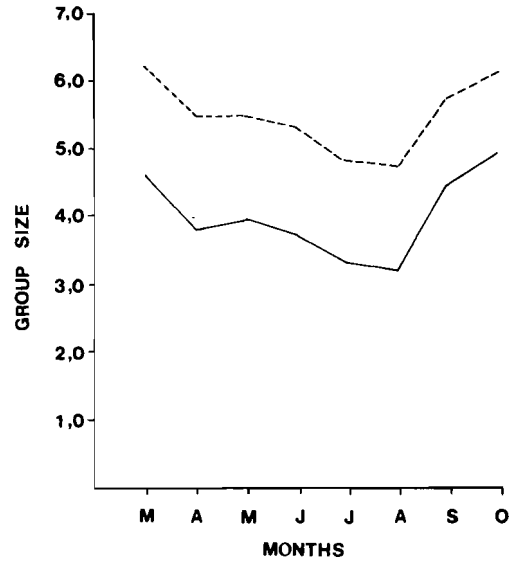

Figure 2 Monthly mean (•——•) and typical (•– – – –•) group size (following Jarman 1982) of kudu on the Springbok Flats study area between March and October 1985.

Smaller group sizes in the present study coincided with the hunting season and seasonal trends were not primarily linked to the breeding cycle as in the other studies (Underwood 1978; Allen-Rowlandson 1980). It can be inferred that hunting also influences the sex ratio, since males are more sought after. However the lower male : female ratio in the study area did not have a negative effect on the fecundity of the population.

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