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Banded mongoose males guard young

In most mammals care of the young is the prerogative of the female. The male, if present at all, contributes little. In the banded mongoose (*Mungos mungo*), however, males play an important role in guarding young at the den while the lactating females forage.

The banded mongoose is a diurnal social carnivore occurring in savanna habitats throughout much of Africa south of the Sahara. In Rwenzori National Park, Uganda, where I studied it for 2 yr, group (pack) size varied from approximately 5 to 40 animals. Reproduction within a pack was synchronised; several females typically came into oestrus at about the same time and subsequently produced their litters within a few days of each other. The young suckled indiscriminately from any lactating female and were groomed, played with, and transported by all pack members. They first began to leave the den for short afternoon foraging expeditions when 3 to 4 weeks old and at 5 weeks began to regularly accompany the adults in the morning. Until this age one or more pack members typically stayed at the den with the young when the others left for the morning's foraging. The pack usually returned after 2 to 4 h and for the remainder of the day the mongooses foraged intermittently in small groups. Occasionally however, a pack remained away from the den for an entire day.

To determine the sexes and identities of mongooses stay-

data for the 32 d in which marked animals stayed with the young. Twenty individuals were recorded guarding a total of 48 times. Adult males stayed with the young most frequently accounting for 73% of the total guarding records; 85% of the 20 mongooses which stayed alone with the young were adult males. The 9 marked lactating females were never recorded to stay with the young in the morning. Non-lactating females and animals less than 1 yr old occasionally guarded, but the latter did not remain alone with the young. Although the sample is small, it indicates that certain individuals show a greater tendency to stay with the young than others. In the E pack a male and non-lactating female accounted for 12 of the 17 guarding observations and two males accounted for 9 of the 11 observations in the F pack. Guarding was more equitably distributed in the I pack and 11 of the 17 pack members stayed with the young on at least one occasion.

The adaptive significance of guarding in the banded mongoose seems clear. Survival of young in the den is enhanced by the presence of an adult capable of protecting them from snakes and other ground predators while the lactating females are left free to forage. Future field studies of other species of social mongooses may reveal that male guarding of the young is characteristic of this group. My observations on *Suricata suricatta* indicate that one or more adults including males typically stay with young at the den and Rasa (personal communication) reports that this also occurs in captive *Helogale undulata*.

Male guarding in the social mongooses has few parallels in other mammals. Male marmosets of the genera *Saguinus*, *Cebuella*, and *Callithrix* are reported to transport the young from the time they are born transferring them to the female only for nursing¹. Among social carnivores, wild dogs (*Lycaon pictus*) usually leave a guard at the den with the young when the pack hunts and this role is shared in turn by females and particular males²; in most cases, however, it is the lactating female which guards although one or more males may accompany her³.

TABLE 1 Guarding of young in three banded mongoose packs

	Males	Adults		Unsexed	Juveniles and subadults (< 1 yr)	Total
		Lactating females	Non-lactating females			
Pack composition:						
E pack	8	4	2	1		15
F pack	13	3	13			29
I pack	8	3	3		3	17
Total	29	10	18	1	3	61
No. marked	21	9	13		3	46
No. marked individuals which guarded	13	0	5		2	20
No. times marked animals acted as guards	35	0	10		3	48
No. times marked animals guarded alone	17	0	3		0	20

ing with the young in the morning three packs were live-trapped and individuals ear clipped and marked in distinctive patterns with Nyanzol fur dye. All mongooses in one pack were marked but it was not possible to trap all members of the other two packs. Mongoose packs ordinarily change dens every few days. When the den site of a marked breeding pack was known, I observed and recorded the total number of mongooses leaving each morning and the identities of those marked. Any marked animals staying in the den could then be determined by the process of elimination. On some occasions a guard emerged with the pack and then returned to the young when the others left. Usually only one mongoose stayed at the den (77% of 57 observations) but up to 6 guards were recorded. On three occasions all pack members went off leaving the young alone.

Table 1 gives the pack compositions and the guarding

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