**Supporting Information**

**Traffic volume and long-distance foraging movements to migratory prey shape roadkill patterns in Serengeti spotted hyenas**

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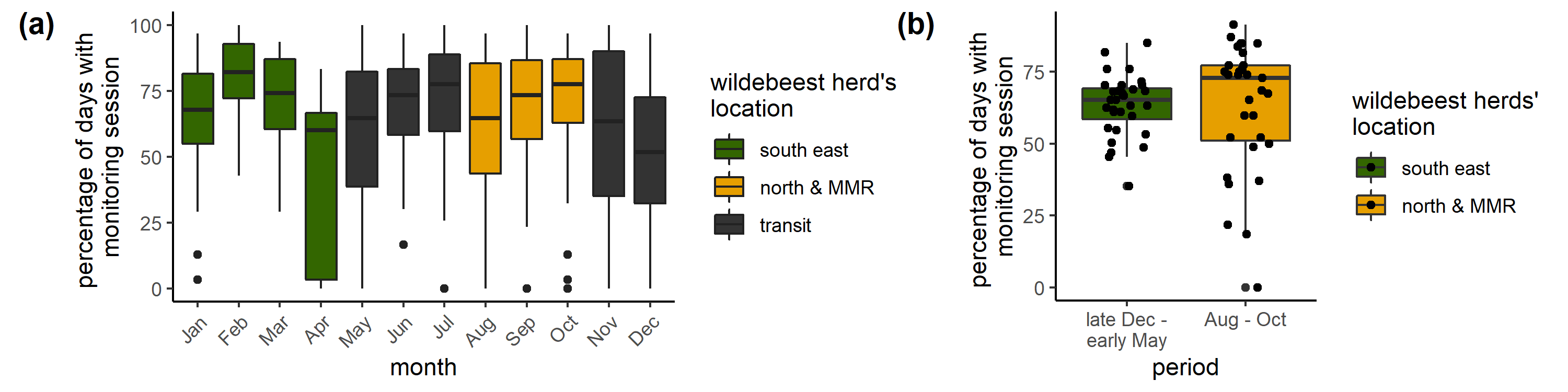
1. **Commuting movements and roadkill risk**

As Table S1 demonstrates, most carcasses were found when low prey abundance was scored in the respective clan territory (for details see Hofer and East, 1993a). During low prey abundance, adult and subadult clan members commute to feed on migratory herds (Hofer and East, 1993a, 1993b, 1993c, 2003). The three carcasses killed when prey abundance in their clan territory was scored medium belonged to an age class which also commutes at medium prey abundance (Hofer and East, 2003).

**Table S1. Roadkills of hyenas belonging to the studied clans.** The values in the last three columns are evaluated for the time of death of each hyena. Prey abundance was assessed inside the territory of the clan to which each hyena belonged.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ID | Clan | Sex | Age class | Standardized rank | Distance from communal den when killed (km) | >4.2km from communal den | Prey abundance in clan territory | Likely roadkilled during commuting |
| hy\_051 | Isiaka | F | cub | -0.29 | 6.8 | yes | low | NA |
| hy\_074 | Isiaka | F | subadult | -0.14 | 10.4 | yes | medium | Yes |
| hy\_064 | Pool | F | adult | 0.13 | 15.5 | yes | low | Yes |
| hy\_055 | Isiaka | F | adult | 0.26 | 16.8 | yes | low | Yes |
| hy\_050 | Pool | F | adult | 0.38 | 4.4 | yes | low | Yes |
| hy\_089 | Isiaka | F | adult | 0.42 | 0.8 | no | low | No |
| hy\_088 | Isiaka | F | adult | 0.47 | 0.8 | no | low | No |
| hy\_059 | Mamba | F | adult | 0.7 | 30.2 | yes | low | Yes |
| hy\_083 | Pool | F | adult | 1 | 10.7 | yes | low | Yes |
| hy\_035 | Mamba | M | adult | NA | 4.4 | yes | medium | Yes |
| hy\_062 | Pool | M | adult | NA | 4.2 | no | low | No |
| hy\_066 | Mamba | M | adult | NA | 8.1 | yes | medium | Yes |
| hy\_071 | Mamba | M | adult | NA | 7.7 | yes | NA | NA |

1. **Distribution of research effort across seasons**

We used records of monitoring sessions from our three study clans in the center of the Serengeti National Park to track researchers’ presence in the field and thus assess whether research effort varied across seasons. The proportion of days during which a monitoring session occurred was roughly the same over the years and over months, with some lows in April, November and December (Fig. S1a). When considering the two periods defined by the location of the migratory herds, monitoring sessions were homogeneously distributed over the two periods (two-sample Wilcoxon test, n = 63, W = 572, p = 0.3, Fig. S1b).

**Figure S1. Research effort between 1989 and early 2020. (a)** Percentage of days of each month during which a monitoring session occurred, for each year between 1989 and early 2020. **(b)** Percentage of days of each season (as defined by the location of the migratory herds) during which a monitoring session occurred, for each year between 1989 and early 2020. Migratory herds are located in the southeast during the wet season (dark green) and in the north and Maasai Mara National Reserve (MMR) during the dry season (yellow).

1. **References**

Hofer, H., and East, M.L. (1993a). The commuting system of Serengeti spotted hyaenas: how a predator copes with migratory prey. I. Social organization. Animal Behaviour *46*, 547–557.

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