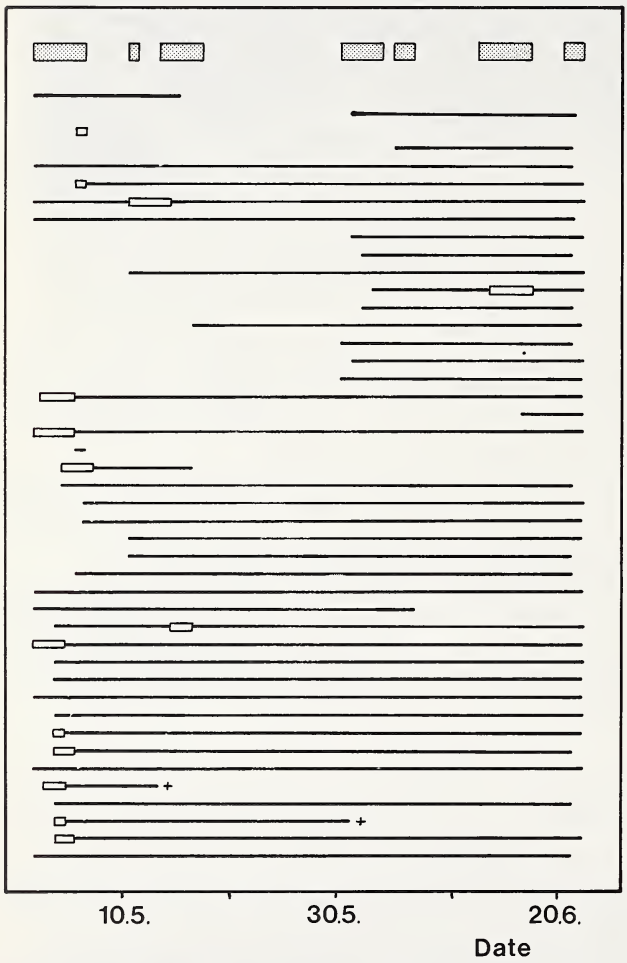
Survival of wild gerbils (Mammalia: Rodentia) parasitized by larvae of the blowfly *Cordylobia anthropophaga* (Insecta: Diptera)

By H. Korn and L. E. O. Braack

Receipt of Ms. 27. 7. 1986



Infestation of *Tatera brantsii* by the blowfly *Cordylobia anthropophaga*. Lines indicate presence of different individuals on the grid. Days of obvious infestation are marked by white boxes. Crosses indicate trap mortality. Trapping periods are marked by dotted boxes on top of the graph

Because of their medical and veterinary importance as vectors and reservoirs of disease, intensive studies have been undertaken to describe the parasites associated with most of the rodent species occurring in southern Africa (for review see De Graaf 1981). Yet despite of the fact that the blowfly *Cordylobia anthropophaga* (Calliphoridae: Diptera) is widespread in Africa and their larvae develop in many species of mammals, including humans (Zumpt 1965; De Graaf 1981), little is known concerning the effect of the larvae on the survival of their small mammal hosts in the field.

The study was carried out during a small mammal survey of the Transvaal Provincial Nature Reserve Nylsvley (Korn 1986). Live trapping was performed on 23 nights between May 2 and June 22, 1984, at the beginning of the cooler dry season. The grid extended over 2.63 ha and was located along the ecotone between grassland and Burkea type savanna in an

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Z. Säugetierkunde 52 (1987) 56–57

ISSN 0044-3468

old field. A total of 45 *Tatera brantsii* (excluding two males caught on the last day of trapping), 26 *Dendromus melanotis*, 15 *Praomys natalensis*, 13 *Mus minutoides* and 5 *Tatera leucogaster* (females only) were trapped. From the five species only *Tatera brantsii* and *Tatera leucogaster* were parasitized by larval *Cordylobia anthropophaga*. From the latter rodent species two of the five females hosted one and six larvae, respectively. Both survived for at least two more weeks, then moved from the study area. Wounds caused by the fly larvae had already healed when they disappeared.

Of 30 *Tatera brantsii* caught until May 7, eleven individuals (= 36.7 %) were parasitized (Fig.). Larvae occurred on most parts of the body (limbs, feet, tail, back, ears, face or genitals) with sometimes two or three larvae in one foot. By May 10th all previously recorded larvae were out. Some days later a fresh infestation occurred but by mid-May heavy infestation of *Tatera brantsii* had ceased. All infested animals survived (Fig.). The loss of one parasitized male was ascribed to migration or predation. It carried only one larva and was caught only on the very edge of the grid. Only one more larva was recorded in an animal in mid-June (Fig.).

Of 24 male *Tatera brantsii* only 4 (16.7 %) were parasitized by *Cordylobia anthropophaga*, while 10 (47.6 %) of 21 females hosted one or more larvae. This difference between sexes is statistically marginally insignificant ($x^2 = 3.667$, $p = 0.0525$). Average infestation intensity for parasitized males was 1.25 (range 1–2) and females 1.8 (range 1–3).

Although no parasite-induced mortality was detected in *Tatera brantsii* or other rodents, the possibility of long-term effects on life-expectancy and fecundity cannot be excluded.

Sexual differences in infestation rates and average number of fly larvae per parasitized *Microtus pennsylvanicus* (1.35 per male; 1.49 per female: Iverson and Turner 1968) agree well with the observations on *Tatera brantsii*. Most studies have recorded increased parasitism in males (*Microtus:* Iverson and Turner 1960; Jacobsen 1966), *Peromyscus* (Goertz 1966; Selander 1961) or no difference between the sexes (*Microtus townsendii:* Boonstra et al. 1980).

Acknowledgements

Prof. Dr. H. Remmert from the Philipps-University in Marburg, and Brian J. Huntley from the CSIR in Pretoria made it possible for Horst Korn to work at the Nylsvley Nature Reserve. The CSIR is thanked for providing financial and logistic support.

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Authors' addresses: Dr. Horst Korn, Fachbereich Biologie-Zoologie, Philipps-Universität Marburg, D-3550 Marburg, FRG, and Dr. L. E. O. Braack, Krüger National Park, Private Bag X402, Skukuza 1350, Rep. South Africa