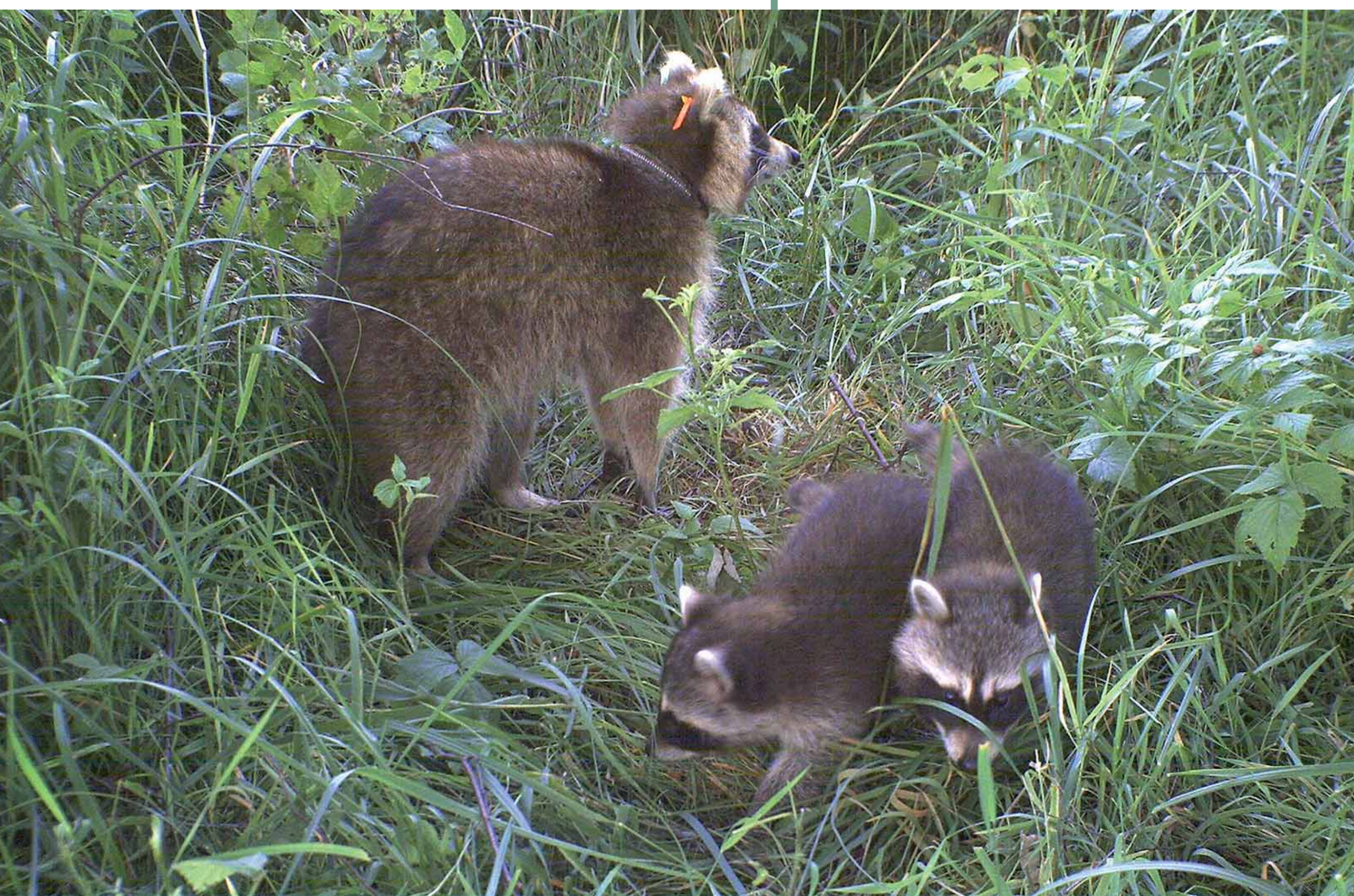




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DIRK SCHÄUBLE¹,
IRINA MUSCHIK¹,
BERIT KÖHNEMANN¹,
FRANK-UWE MICHLER¹,
MECHTILD ROTH²

Social patterns of female raccoons and their young over the breeding and weaning period

¹ Projekt Waschbär, Goldenbaum 38, 17237 Carpin (Germany), e-mail: info@projekt-waschbaer.de

² Technical University Dresden, Institute of Forest Zoology (Germany)

Introduction

We have analysed the home range and the social behaviour of raccoon-mother-families in a bog and swamp area with the help of the VHF-Telemetric-System. The focus of intention was to have a closer look at the important time in the young families' life between the litter period and the breeding and weaning of the cubs.

The social patterns of female raccoons and their young have not sufficiently been investigated yet (GEHRT 2003). Therefore only very few data has been collected concerning the sensitive period of weaning, taking place between the 4th and the 8th month of the cubs' life (SCHNEIDER 1971).

This study, carried out in 2007, is part of a research project investigating the population ecology of raccoons in the Müritz-Nationalpark (Mecklenburg-Western Pomerania; www.projekt-waschbaer.de).

Material & Methods

The determined time frame for this substudy was July, when the young start to accompany their mothers until November 2007 (SCHÄUBLE 2009).

In this space of time six raccoon-families (6 adult females, 13 cubs) were fitted with VHF radio collars. For the cubs special flexible collars (Wagener®, Germany) were taken that adapt to the growing process.

With the help of the collected telemetric data survey (n = 2462), the home ranges of the raccoons were localised and compared with each other. In order to have precise illustration of the social contact between female and cub, data of the dynamic interaction has additionally been collected via the Jacobs-Index (JACOBS 1974), that reveals attraction ($J_x = 1.0$), neutral behavior ($J_x = 0$) or avoidance ($J_x = -1.0$) between two individuals. The observation periods of the families were not identical, because the time when the cubs were fitted with radio transmitter differed.

Posterdesign: Irina Muschik

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Results & Discussion

The investigated females showed an average home range size of 225 ha (n = 6, Min. = 99 ha, Max. = 459 ha, S = 133 ha), and for the cubs the average home range size was 212 ha (n = 11, Min. = 52 ha, Max. = 370 ha, S = 178 ha). The home ranges of the cubs differ insignificantly from the ones of the females over the investigated period (U-Test, $U_1 = 23$, $U_2 = 31$, $p > 0,05$).

The Jacobs-Index averages at 0,53 (J_x) (n = 10, Min. = 0,14, Max. = 0,99, S = 0,33). The results show a wide range of different social contact among the raccoons from a very close contact to a loose liaison.

The modified home ranges and the Jacobs-Index both showed differences between the six investigated raccoon families. Over the investigated period, four families showed preceding substeps of disbandment.

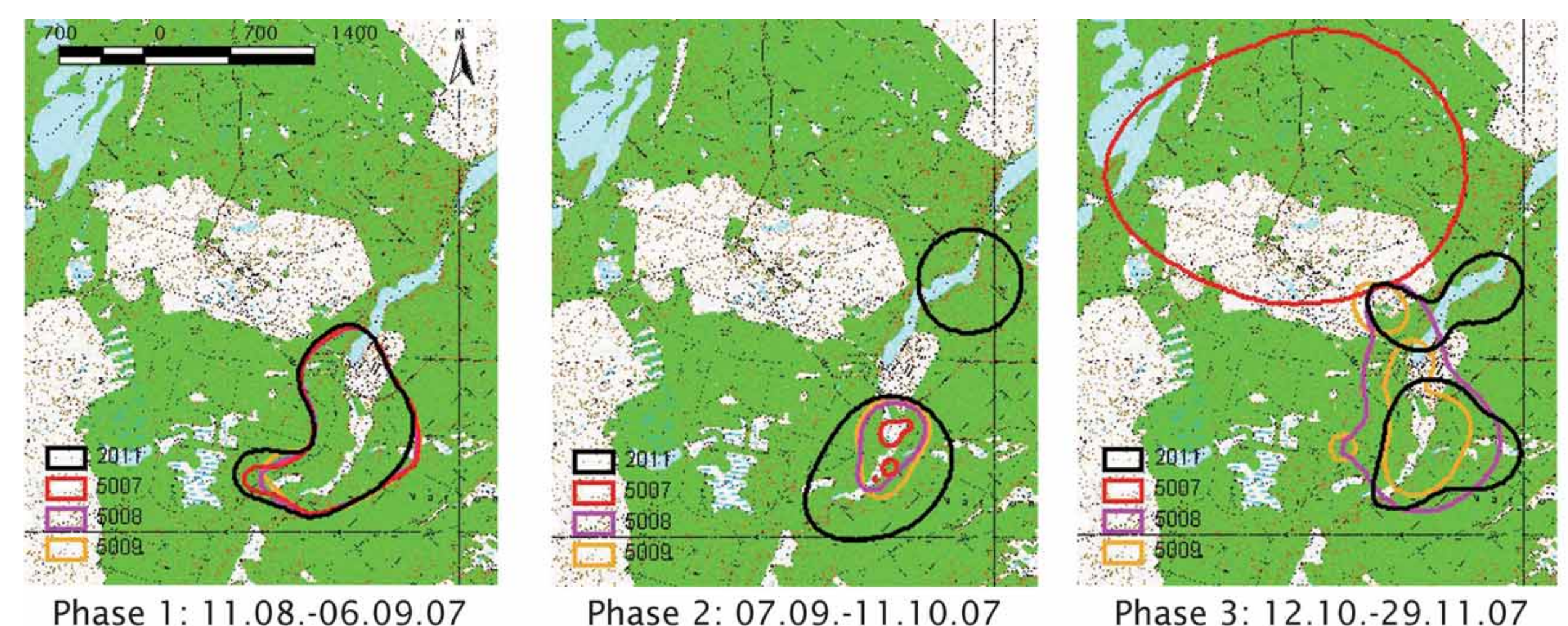


Fig. 1: Home ranges from a telemetrically investigated raccoon-family (Adult female 2011, 3 cubs: 5007, 5008, 5009) in Müritz-NP from August 11th until November 29th. The calculations were carried out with the 95 fixed-kernel-method.

Looking at Family 1 for example (Fig. 1), it could be observed that from September 7th, the female shifted her home range to the north while the cubs stayed where they have been before (Phase 2). The cubs on the other hand, shifted their home range independently from October 12th on, which as a consequence, ended in the dismigration of cub 5007 (Phase 3). These observations were also confirmed by the Jacob-Index: showing a data close to '1' in the time before September 6th, it declined in the aftermath to a result between 0,3 and 0,0. In the same time two families showed no noticeable changes concerning their social ties.

Nonetheless, the results of this study lead to the conclusion, that for raccoons the sensitive process of weaning is a very complex procedure, which is not uniformly happening.

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