

Author's Accepted Manuscript

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www.elsevier.com/locate/jtherbio

PII: S0306-4565(17)30529-6
DOI: <https://doi.org/10.1016/j.jtherbio.2018.04.005>
Reference: TB2095

To appear in: *Journal of Thermal Biology*

Received date: 23 December 2017
Revised date: 1 April 2018
Accepted date: 4 April 2018

Cite this article as: Marie Tsunoda, Chris Newman, Christina D. Buesching, David W. Macdonald and Yayoi Kaneko, Badger setts provide thermal refugia, buffering changeable surface weather conditions, *Journal of Thermal Biology*, <https://doi.org/10.1016/j.jtherbio.2018.04.005>

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Badger setts provide thermal refugia, buffering changeable surface weather conditions

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Abstract

Den use can be crucial in buffering environmental conditions and especially to provide an insulated environment for raising altricial young. Through Sept-Dec 2016 we monitored temperature and humidity at 11 badger setts (burrow systems), using thermal probes inserted over 4-13 sett entrances to a depth of ca. 2 m, supplemented by continuous daily logging at one entrance per sett. Setts were cooler than exterior conditions Sept-Oct, and warmer than exterior conditions Nov-Dec. Setts cooled down when badgers left them to forage by night, and warmed up when badgers occupied them by day. Soil type and aspect also influenced sett temperature. Sett temperature did not affect the weight or body-condition of either adults or maturing cubs in autumn. However, cubs born into setts that were relatively warmer through the preceding autumn-winter were heavier in the following spring than contemporaries born in cooler

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