Diurnal Above-ground Movement in Hairy-tailed Moles, *Parascalops breweri*

ERIN E. FRASER[1] and JOHNSTON F. MILLER

Department of Biology, University of Western Ontario, London, Ontario N6A 5B7 Canada
[1] Corresponding author: efrase4@uwo.ca

Fraser, Erin E., and Johnston F. Miller. 2008. Diurnal above-ground movement in Hairy-tailed Moles, *Parascalops breweri*. Canadian Field-Naturalist 122(3): 267.

We report the first record of Hairy-tailed Moles (*Parascalops breweri*) moving above ground during the day and suggest that the four individuals observed were young-of-the-year dispersing from their natal territories. Extreme drought conditions may also have driven these animals to move above ground.

Key Words: Hairy-tailed Moles, *Parascalops breweri,* diurnal, dispersal, above-ground, Ontario.

We observed four Hairy-tailed Moles (*Parascalops breweri*) above ground between 1 and 4 July 2007, in a residential neighbourhood north of Pinery Provincial Park, Ontario (43°17'72.4 N, 081°46'56.5 W; 43°17'72.0 N, 081°46'58.4 W; 43°17'28.5 N, 081°47'16.7 W; 43°17'37.0 N, 081°47'03.9 W). The neighbourhood is a forested community composed mainly of modified Oak Savannah habitat and with extremely sandy soil.

Three of the moles were dead on the road, and one crossed the road in front of us. *Parascalops breweri* has been recorded foraging above ground but only at night (Hamilton 1939). One of the road-killed moles appeared freshly dead and had not yet achieved *rigor mortis* in the early afternoon, suggesting it had been killed during the day. We observed the live mole crossing the road at 10:30 a.m. To our knowledge, these are the first reports of this species moving above ground during the day. No moles were observed after 4 July 2007.

We recorded the sexes, weights and lengths of two of the road-killed *P. breweri* (the posterior half of the third road-killed mole had been destroyed, making these observations impossible). One was female (weight: 43 g, length: 144 mm) and the other was male (36 g, 126 mm). We aged all three road-killed *P. breweri* based on tooth wear (Eadie 1939), and all were young-of-the-year. We suggest that they were leaving their natal nests to develop their own territories. Many small mammal species undergo natal dispersion (Sutherland et al. 2000), and young Townsend's Moles (*Scapanus townsendii*) may disperse more than 850 m, sometimes crossing paved roads in the process (Giger 1973). Little is known about the developmental biology of Ontario *P. breweri*, but juvenile individuals in New Hampshire first left their natal nests in late June (Eadie 1939). This timing roughly coincides with our observations.

We further suggest that while the majority of dispersal may be subterranean, dispersing young may find it difficult to create surface tunnels in heavily packed soil beneath roads and may choose to travel briefly above ground. The majority of subterranean activity by *P. breweri* occurs during the day (Hamilton 1939), explaining the diurnal timing of our observations.

The unusual behaviour of these moles may have been exacerbated by extreme climatic conditions. The summer of 2007 was a drought year in Ontario, with a total precipitation in June of 40.0 mm, 45.6 mm lower than average (Environment Canada 2007, results for Sarnia, Ontario, http://www.on.ec.gc.ca/announce.cfm?ID=775&Lang=e). Little is known about how *P. breweri* obtains water in the wild (van Zyll de Jong 1983: 156-164), but the dry conditions may have prompted the moles to search for water over a longer range.

Acknowledgments

We thank L. McGuire and J. S. Millar for their advice in the development of this manuscript.

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Received 8 October 2007
Accepted 17 March 2009