

Differential Footload of Male and Female Fisher, *Martes pennanti*, in Quebec

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We examined the mass, foot area and foot oad (mass/surface area) of Fishers (Carnivora: Mustelidae: *Martes pennanti*) captured during the 2006-2007 commercial fur season in southern Quebec, Canada. Body mass of males ($\bar{x} = 4.7 \text{ kg} \pm 0.5$, $n = 37$) was significantly larger than that of females ($\bar{x} = 2.4 \text{ kg} \pm 0.2$, $n = 40$). Similarly, the size of male feet ($\bar{x} \text{ area} = 130.5 \text{ cm}^2 \pm 10.9$, $n = 37$) was significantly larger than that of females ($\bar{x} = 95.2 \text{ cm}^2 \pm 7.6 \text{ SE}$, $n = 40$). The resulting footload of males ($36.2 \text{ g/cm}^2 \pm 6.1$, $n = 37$) was 43% larger than that of females ($25.3 \text{ g/cm}^2 \pm 2.3$, $n = 40$). These results may help explain the differential behaviour and niche partitioning in this mustelid carnivore.

Key Words: Fisher, *Martes pennanti*, footload, foot size, snow, mass, niche, Quebec.

25.9 g/cm²; Murray and Boutin 1991), but much higher than that of the American Marten (*Martes americana*, 9.4 g/cm²; Krohn et al. 2003), a sister species with a much more northern distribution. Footload of male Fishers, albeit high compared to females, nonetheless is lower than that of coexisting canids such as Red Fox (*Vulpes vulpes*, 88.5 g/cm²) and Coyote (*Canis latrans*, 170.3 g/cm²; Murray and Larivière 2002) but higher than the footload of another scavenging mustelid, the Wolverine (*Gulo gulo*, 22 g/cm²; Knorre 1959). These results may help explain the differential ecology of male and female Fisher, especially in northern environments where deep snow is a constraint. However, further work should be conducted on male-female differences to better understand their behavioural ecology.

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