Precocial Breeding in a Southern Ontario Muskrat, *Ondatra zibethicus*, Population

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The examination of the uteri of 594 juvenile Muskrat (*Ondatra zibethicus*) from Southern Ontario in the fall of their year of birth indicated that three young females had conceived a single litter. This is the first verified evidence of precocial breeding in an Ontario Muskrat population.

Key Words: Muskrat, *Ondatra zibethicus*, Ontario, precocial breeding.

Precocial breeding in Muskrat (*Ondatra zibethicus*) populations has been observed in the United States by Errington (1954) and Sather (1958). In Canada, precocial breeding activities were reported by Stewart and Bider (1974) in Quebec, and Parker and Maxwell (1984) in New Brunswick. In Quebec, however, although these animals were about seven months of age, they had over-wintered and were entering what would have been their first normal breeding season. Such animals are often classified as adults (Parker and Maxwell 1980). In Ontario, despite extensive studies by Wragg (1953), Proulx and Gilbert (1983) and Proulx et al. (1983), no precocial breeders were ever reported.

Carcasses of Muskrat trapped between the end of October and mid-November 1983 in the Ontario Ministry of Natural Resources' Cambridge District were examined for sex, age and productivity. Muskrat were aged by Sather's (1954) dentition method, i.e., in adult dentition, the end of the first fluting of the first upper molar is visible while in juvenile dentition, the fluting runs deep into the alveolar socket and the end of the fluting is not visible. Productivity was determined by placental scar counts.

Uteri examination indicated that three of 594 juvenile females had conceived. Two had been caught in drainage ditches of Puslinch Township, Wellington County. One female had 9 placental scars and the second had 7. The third female was captured at Luther Marsh, West Luther Township, Wellington County, and had 7 placental scars.

The mean litter size of these early breeders was 7.7, slightly more than the 6.3 and 6.1 mean litter sizes for female adults reported by Proulx and Gilbert (1983) and Proulx et al. (1983), respectively. This mean is similar to the 7.5 mean litter size of precocial breeders reported by Parker and Maxwell (1984).

It appears that, with a mild winter such as was observed in 1982-83 (Farmer 1983a,b), some females succeed in rearing their first litter early enough in the breeding season so that offspring can reproduce during their own season of birth. However, the lack of evidence of precocial breeders in previous studies and the small proportion of such precocial breeders in our sample suggest that precocial breeding does not occur frequently in Southern Ontario. These specimens are the first documented evidence of precocial breeding in an Ontario Muskrat population.

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