RADIOCOLLARED COYOTE CROSSES CAPE COD CANAL

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Abstract: In this note I describe evidence for the dispersal of a radiocollared female coyote (*Canis latrans*), originally captured on Cape Cod, to an area off Cape Cod.

Key words: *Canis latrans*, Cape Cod, dispersal, eastern coyote, Massachusetts

Dispersal enables coyotes to colonize new and sometimes disparate areas. Coyotes are believed to have colonized western Massachusetts during the late 1950s (Pringle 1960), and Cape Cod during the late 1970s (J. Cardoza, Massachusetts Division of Fisheries and Wildlife, personal communication). How coyotes reached Cape Cod is unclear but anecdotal information suggests that animals swam the 1-km-wide canal and traveled over the two bridges (each about 1 km in length) (D. Turner and J. Cardoza, Massachusetts Division of Fisheries and Wildlife, personal communication). Coyotes have even colonized insular Newfoundland and Prince Edward Island, probably traveling across pack ice to reach those islands (Parker 1995). Similarly, Darimont and Paquet (2002) documented the presence of wolves (*Canis lupus*) on offshore islands in western Canada and noted that wolves swam up to 12 km to reach some islands.

Individual radiocollared coyotes have been shown to disperse long distances: the maximum dispersal reported from Maine was 342 km (Harrison 1992), a dispersal of 140 km was documented for a coyote captured in Vermont (Person 1988), a coyote traveled 320 km in an urbanized environment in southern Ontario (Rosatte 2002), and one coyote traveled 544 km from Manitoba to Saskatchewan (Carbyn and Paquet 1985). Long-distance dispersals of individual coyotes likely involve travel through both rural (Patterson and Messier 2001) and urbanized areas (Gompper 2002). However, documentation of coyotes successfully dispersing across geographic barriers such as islands, large rivers, or densely human-populated urban areas is uncommon. Documenting such events would demonstrate that wild coyotes can colonize isolated areas without human assistance, in contrast to reports by Hill et al. (1987) for coyotes colonizing the southeastern United States.

This paper is part of a larger ongoing study on coyote ecology on urbanized Cape Cod (Way et al. 2001, Way et al. 2002). Research activity was focused in and around the town of Barnstable at the western edge of Cape Cod (Fig. 1). Cape Cod is a human-made island (1,025 km^2) separated from the rest of Massachusetts by the Cape Cod Canal (~1 km wide x 15 km long). Two bridges, each about 1 km long, enable access to Cape Cod.

Contact with female coyote #0202 was established on 3 January 2002 when the 19-kg, 1.5-year-old (based on tooth wear; Bowen 1982, Landon et al. 1998)

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animal was captured in a box trap (model 610B, Tomahawk Live Trap Co., Tomahawk, Wisconsin, USA), then fitted with a radiocollar and released on-site. Coyote #0202 was captured within the territory of ≥3 resident coyotes, 2 of which were radiocollared at the time (adult female #9902, 13.6 kg, and adult male #0103, 18 kg). Upon release, #0202 left the area that night and traveled west (Fig. 1). The last recorded location (on 5 January 2002) was 8.3 km west of her capture location. I was unable to locate #0202 until 18 May 2002 when a wildlife official recovered her road-killed carcass alongside Route #25 in Bourne, Massachusetts. The fresh condition of her body indicated recent death (i.e., likely during the previous night). This location is 3 km north of the Cape Cod canal and 27 km from the capture location of #0202 (Fig. 1).

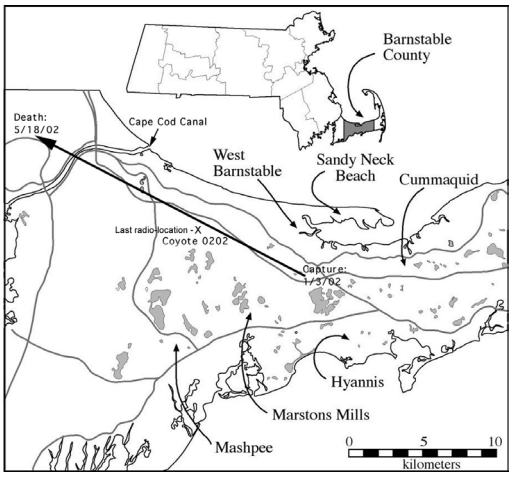

Fig. 1. Study area in Barnstable County, Cape Cod, Massachusetts showing principle locations, main roads, water bodies (shaded) and coyote #0202's capture, last radiolocation, and death location. Inset shows location of Barnstable County and Cape Cod in Massachusetts.

Although it is unknown exactly how coyote #0202 crossed the canal, I have received reports both from fisherman who have watched coyotes swim the canal and from civic employees who have sighted coyotes on the bridges during periods of low traffic volume (i.e., 0200–0300 hr).

The recorded movement of #0202 is of interest because it details the dispersal of a large body sized female coyote (see Parker 1995) originally captured in the territory of a mated pair, both of which were smaller than her. In canids, males are usually larger than females though the degree of dimorphism is less than found in most carnivores (Dayan and Simberloff 1996, Kennedy et al. 2003). In most mammals males disperse at a higher rate than females (Dobson 1982, Waser 1996), and larger individuals usually have reproductive advantages, especially in promiscuous species (Wilson 1975). However, coyotes are monogamous (Way et al. 2001), and Harrison (1991) found no differences in dispersal patterns between young male and female coyotes in Maine. Nevertheless, successful colonization of new and even disparate areas by wide-ranging monogamous mammals like coyotes may be enhanced by dispersal of females.

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