

## Long Distance Movement by a Coyote within the Rocky Mountains

### Abstract

We documented a long distance movement of a juvenile male coyote (*Canis latrans*) between February 2002 and February 2003. The radiocollared coyote, last located in west central Montana, U.S.A. traveled  $\geq 310$  km to southwestern Alberta, Canada, where it was trapped. This is the longest documented movement by a coyote in western North America.

A juvenile male coyote (*Canis latrans*) was trapped and radiocollared near Seeley Lake, Montana on September 16, 2001 as one of 25 animals marked during a study of coyote-winter ecology. The coyote left the study area November 20, 2001 and the radio signal was lost on February 21, 2002. This coyote was killed by a fur trapper near Crowsnest Pass, Alberta February 2, 2003 after traveling a straight line distance of  $\geq 310$  km from its last recorded location. To our knowledge, this is the longest documented movement by a coyote in western North America.

The coyote was captured in a modified Victor #3 Softcatch<sup>®</sup> (Oneida Victor Inc. Ltd., Euclid,

OH) coil spring trap by a front foot, anesthetized, examined, and fitted with a radio collar. It was uninjured and apparently healthy when released. The animal remained within 20 km of the capture location until late November 2001 when it left the study area. In February 2003, this male was trapped in good condition along with a female coyote; both animals were killed by the trapper (J. Clarke, Alberta Environment, personal communication).

Although this movement is exceptional for western North America, movements of equal or greater lengths have been documented within the central plains and eastern forest regions (Table 1).

TABLE 1. Long distance movements by coyotes documented in North America.

| Region               | Movement Distance (km) | Location <sup>a</sup>        | Source                           |
|----------------------|------------------------|------------------------------|----------------------------------|
| West <sup>b</sup>    | 310                    | Montana, USA./ Alberta, Can. | Kolbe and Squires (This article) |
|                      | 58                     | Alberta, Can.                | Roy and Dorance (1985)           |
|                      | 152                    | Montana, U.S.A.              | Pyrah (1984)                     |
|                      | 57                     | Idaho, U.S.A.                | Woodruff and Keller (1982)       |
|                      | 85                     | Montana, U.S.A.              | R. Crabtree (pers. comm.)        |
|                      | 155                    | Alberta, Can.                | Nellis and Keith (1976)          |
|                      | 140                    | California, USA              | Hawthorn (1971)                  |
|                      | 185                    | Montana, USA                 | Robinson and Cummings (1951)     |
|                      | 161                    | Wyoming, USA.                | Garlough (1940)                  |
| Central <sup>c</sup> | 544                    | Manitoba/ Saskatchewan, Can. | Carbyn and Paquet (1986)         |
|                      | 323                    | Iowa/Missouri, USA           | Andrews and Boggess (1978)       |
| East <sup>d</sup>    | 320                    | Ontario, Can.                | Rosatte (2002)                   |
|                      | 342                    | Maine/Vermont, USA           | Harrison (1992)                  |

<sup>a</sup> Locations listed as "moved from/moved to" where applicable

<sup>b</sup> "West" is defined as having an initial capture location west of 110°W Longitude

<sup>c</sup> "Central" is defined as having an initial capture location between 90°W and 110°W Longitude

<sup>d</sup> "East" is defined as having an initial capture location east of 90°W Longitude

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This coyote was initially captured at an elevation of 1470m and trapped at an elevation of roughly 1700m. Although the movement path on this male was not documented, the area between these two points is mostly mountainous terrain with elevations varying between 1100m to over 3100m.

Long-distance movements of coyotes are apparently rare. However, biologists should consider the maximum regional dispersal distance when

managing rabies, sarcoptic mange and other disease epizootics (Rosatte 2002).

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