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## Running Speeds of Crippled Coyotes<sup>1</sup>

### Abstract

Running speeds of one uninjured coyote (*Canis latrans*) and three coyotes crippled by loss of use of one front foot were recorded as the animals were chased through measured courses by a person on foot. The crippled coyotes generally attained slower speeds than did the uninjured coyote. Mean speeds for the crippled coyotes ranged from 19.1 kph to 27.4 kph.

### Introduction

Young and Jackson (1951:99-105) reported several accounts of coyotes surviving loss of part of an appendage resulting from gunshot or damage from a steel trap. Such an injury may affect the speed a coyote is capable of attaining, thus influencing prey-capture and escape capabilities.

Cottam (1945), Sooter (1943), and Zimmerman (1945) reported running speeds of presumably uninjured coyotes being chased by car. Recorded speeds ranged from 46.7 kph to 69.2 kph. Speeds of coyotes lacking all or a part of one foot apparently have not been recorded.

On 21, 22, and 23 October 1974 I recorded running speeds of three wild-trapped coyotes that had lost the use of one foot due to damage from a steel trap. On 21 January 1975, I recorded speeds of an uninjured coyote for comparison.

### Methods

The coyotes were confined in cages within a 6.5-ha cyclone fence enclosure located 17.8 km northwest of Corvallis, Oregon. During the tests, the coyotes were released from their cages singly and allowed to run along the perimeter fence of the enclosure. Each day the coyotes were timed with a stop-watch as they ran three measured courses (97.6 m, 112.7 m, and 152.4 m) along the perimeter fence. As a coyote approached the starting point of each course, I chased the animal on foot at a distance of 45 m to 70 m. Each coyote ran approximately 1220 m each day but was chased through the measured courses only. I recorded speeds for the uninjured coyote on one day only because of difficulty in handling the animal. Weather and ground conditions were similar on all test days.

### Results

Speeds attained by the crippled coyotes generally were less than the speeds of the uninjured coyote, although one crippled animal equalled the performance of the uninjured coyote (Table 1). The speeds for three timed runs by the uninjured female on 21 January were significantly greater ( $t=3.61, 2 \text{ df}, P<0.05$ ) than speeds for three timed

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runs on 21 October by the crippled female of comparable size. The speeds recorded for the crippled coyotes appeared to be directly related to the weight of the animals.

TABLE 1. Physical descriptions, number of runs, maximum speeds, and mean speeds for three crippled coyotes and one uninjured coyote chased through measured courses.

| Sex | Weight (kg) | Condition of front feet | Number of timed runs | Speed (kph) |      |
|-----|-------------|-------------------------|----------------------|-------------|------|
|     |             |                         |                      | Maximum     | Mean |
| F   | 7.7         | RF foot degenerated     | 9                    | 25.4        | 20.9 |
| M   | 10.4        | LF foot amputated       | 9                    | 31.9        | 27.4 |
| F   | 5.4         | RF foot amputated       | 9                    | 22.5        | 19.1 |
| F   | 7.3         | Undamaged               | 3                    | 31.9        | 27.5 |

Although the crippled coyotes occasionally contacted the ground with their damaged appendage, they typically adjusted their stride to prevent contact with the ground. The adjusted stride resulted in a noticeable bouncing movement when the crippled coyotes ran.

### Discussion

The coyotes were held in captivity for at least three weeks prior to the tests and were somewhat accustomed to me. This familiarity and the slow speed at which I chased the coyotes prevents direct comparison of the speeds I recorded with the speeds reported by other authors.

Sperry (1939) reported that diets of "peg-leg" coyotes were similar to those of uninjured coyotes, although the "peg-leg" animals tended to consume more carrion and livestock. Except for jackrabbits (*Lepus* spp.) and ungulates, common prey species of coyotes reportedly are not capable of speeds more than 16.1 kph (Cottam and Williams, 1943). From my data, it appears that coyotes handicapped by the loss of a front foot are able to move faster than most of their prey species. Some loss of agility may account for the reported decrease in consumption of rodents by crippled coyotes (Sperry, 1939).

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