

Behavior of Wild Coyotes  
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A study is being done on the behavior of coyote pups paralleling John Paul Scott's original study of the developmental behavior of dog pups. Observations are being made of wild coyotes wherever possible. The observations reported on wild coyotes were made in Grand Teton National Park, most of them occurring in the vicinity of the Research Station.

The usual procedure was to be out in the field as soon as the sun came up, pick an observation post and remain there until approximately 8 a.m. Some observations were also made from approximately 6 in the evening until it became too difficult to pick up objects through binoculars. The majority of observations were made on a pair of coyotes that hunted the meadows surrounding the Research Station. These coyotes were seen together most frequently approximately an hour before the sun set. One of the Station meadow pair was a cripple and limped on its right forepaw. These coyotes were not overly afraid of a single person walking in the meadow; they would maintain a distance of at least 100 yards, but would sit down to watch if the person stood still, even yawning and scratching, hunting for squirrels. If more than one person was present, the pair would soon disappear into the brush along the road. A coyote was also observed on the elk refuge, but spotted the observer and ran.

There seemed to be a particular pattern of the times during the night in which the coyotes would howl. In late June and early July, they seemed to howl regularly between the hours of 8:30 and 10 p.m. In late July they howled fairly regularly between the hours of 3 a.m. and 5 a.m. During August they tended to howl during the hours between midnight and 2 a.m. In August the pups were out with the parents. Howling during this time was characterized by much yipping, much more than ever vocalized by the parents.

Two interesting observations were noted. In August the coyotes stopped coming around the Station after three nights of intensive howling activity. It was noted that the Uinta ground squirrels went underground for hibernation at this same time. The coyotes were not heard in the meadow again before the period of observation ended. Dr. Clarke has noted that this has happened in previous years. It is quite possible that there is a correlation, for when the numerous ground squirrel burrows were checked in the mornings, coyote tracks were much in evidence, even some digging of burrow mouths. The Station meadow coyotes were observed several times hunting this highly populated ground squirrel area.

One other interesting observation which was made and has been verified by at least one other person is the response of the coyotes to a person howling or a dog answering them. Several times this observer would howl in a reasonably decent imitation of a coyote and be answered. At least twice the coyotes were heard to move in towards the Station in response to the imitation. However, if their pattern of howling and yipping was not followed exactly, there was immediate silence. If howling was continued after the coyotes had started yipping, there was instant silence on their part. This was tried a total of seven times with the same result. An observer in an archeological camp in Arizona said that when the coyotes howled, the camp dogs would answer, but that if the coyotes started yipping and the dogs continued howling, the coyotes were immediately

quiet and no further howling would be heard from them. The communication signals that coyotes use with each other deserve to be studied. Howling seems to serve more than one purpose, and there seem to be different kinds of howls.

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Biotic Succession in Lodgepole Pine in Yellowstone National Park  
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The months of June, July, and August were spent in an attempt to locate suitable study sites for 1966 and 1967 research. Records at the Mammoth Headquarters of Yellowstone National Park were searched for information on fire history, and on history of pesticide usage and blister rust control in the Park. These data are being organized and maps drawn of the affected areas.

After visiting a number of sites and determining their age by increment samples, six study areas were selected that were burned 5, 9, 23, 55, 90 and approximately 300 years ago. Soil samples collected from these areas have been analyzed. Data on invertebrates, mammals, birds, other vertebrates, and plants will be collected and analyzed in relation to their physical and biotic inter-relationships in an attempt to establish the successional pattern.

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