

BRIEF NOTE

Food Habits of the Coyote in the Vizcaíno Desert, México¹

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ABSTRACT. We studied the food habits of the coyote (*Canis latrans*) through stomach contents analysis, in the Vizcaíno Desert, Baja California Sur, México, from January to March 1984. Thirty stomachs were analyzed, and their contents identified. Rodents and plants are the most frequent foods consumed. Taking into account the mass of food items ingested, rodents (*Dipodomys* and *Thomomys*) were the main prey items consumed. There was no evidence of domestic livestock ingestion.

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INTRODUCTION

The coyote (*Canis latrans*) is the most conspicuous carnivore of México (Arnaud 1993), having adapted to expansion of human activities (Leopold 1985). Because of their abundance and possible effects on domestic cattle and game populations, the coyote is the most studied carnivore in the United States (Clark 1972, Gipson 1974, Ozoga and Harger 1966, Wagner and Stoddart 1972).

In México, despite their abundance and ecological importance, few studies dealing with coyote food habits have been conducted. Most of these studies have utilized scat analysis (Arnaud 1993, Vela 1985) and, thus, we consider it is important to compare the results using stomach contents, because the digestibility of the food consumed could bias the scats analysis results (Johnson and Aldred 1982; Artois et al. 1988). The purpose of our study was to describe coyote food habits from the Vizcaíno Desert, Baja California Sur, México.

MATERIAL AND METHODS

Study Area

The 25 km² study area was located at the West coast of the Vizcaíno Desert, Baja California Sur, México (26° 30' to 28° N and 114° to 115° W) (Fig. 1). The climate of the zone was BWhs (x¹) (e) (Salinas-Zavala et al. 1991) which corresponds to a dry, semiarid with a range of annual temperature between 18 to 22° C and a total annual precipitation between 50.14 and 83.69 mm. The elevation of the area varied between zero to 200 m above sea level. The main vegetation types, as classified by León et al. (1991), included saltbush (*Atriplex* and *Salicornia*), halophyte scrub (*Ambrosia*, *Bursera*, *Frankenia*, *Bouteloua*, and *Muhlenbergia*), coastal dunes (*Abronia*, *Dalea*, and *Plantago*), and Sarco-crasicaule scrub (*Acacia*, *Jatropha*, *Larrea*, *Opuntia*, and *Yucca*).

Methods

As a part of a Federal coyote population control campaign in the Vizcaíno desert, we obtained 30 stomachs collected between 1 January to 30 March 1984. Twelve number 3 coyote traps were baited with meat and set at sunset. In the morning each trap was checked, any coyote was euthanized, and the stomach removed. In general the food habit analyses followed the procedures outlined by Korschgen (1980). Stomach contents were washed with water, separated, classified, and wet weight determined. We utilized a reference collection to

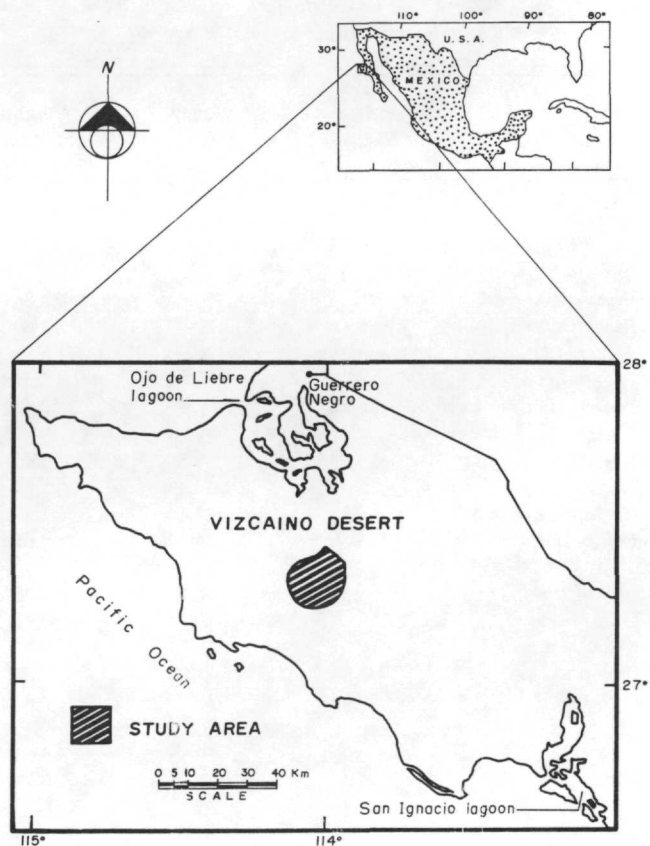


FIGURE 1. Location of the study area.

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properly identify prey items in each stomach. The use of stomach analysis gave positive information on the food ingested by the coyote and seems to be more adequate than fecal analysis to determine coyote food habits in a short period of time (Gier 1968).

RESULTS

Rodents and plants were the most frequent prey items in the diet as represented by percent occurrence (Table 1). However, when taking into consideration the mass of the food items, rodents constituted the more important prey item for coyotes, followed by lagomorphs (Table 1).

DISCUSSION

Because of its opportunistic feeding habit (Van Vuren and Thompson 1982), the coyote diet could be as diverse as the environmental conditions they inhabit (Hilton 1978). In some parts of western North America it has been found that lagomorphs constitute the main prey item for coyotes (Andrews and Bogges 1978, Gipson 1974, Moore and Millar 1986). However, some studies have shown that vegetables (Meinzer et al. 1975) and insects (Turkowsky 1980, MacCracken 1981) could be important food items or even dominant in the coyote diet.

In spite of the relatively small number of stomachs analyzed, in the present study the results give some

insight on coyote feeding habits in a location of northwestern México. Our results show that lagomorphs are not the preferred prey items for coyotes in the area. Also, birds and domestic livestock were absent in the Vizcaíno desert coyotes diet, which were common foods for others coyote populations (Gipson 1974, Smith and Kennedy 1983). Probably, the differences in coyote in food habits may be explained by the specific biotic and abiotic characteristics of the Vizcaíno Desert. The Vizcaíno Desert is an extended plateau, covered predominantly by halophytic vegetation 30 cms high, where severe climate conditions prevail, which limits the diversity of potential prey for coyotes.

The Vizcaíno Desert is a sparsely populated area of México. No agriculture is developed in the area, and livestock production is minimal. No cattle or lambs were free ranging in the study area during the predator control program. In addition calving and lambing season, the most sensitive livestock period to depredation, occurs in the study area between March and June.

The biotic and abiotic prevailing conditions in the Vizcaíno Desert determine that the more available prey to the coyotes could be small rodents. These conditions also explain the lack of birds or domestic livestock in the Vizcaíno coyote diet.

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TABLE 1

Coyote diet at Vizcaíno during January-March 1984.
The number of analyzed stomachs are 30.

Species	% Occurrence	Weight (g)	Weight %
<i>Silvilagus</i> sp.	10.00	106.69	4.66
<i>Lepus californicus</i>	6.66	284.11	12.42
<i>Dipodomys</i> sp.	33.33	705.55	30.86
<i>Peromyscus</i> sp.	6.66	272.00	11.89
<i>Neotoma lepida</i>	3.33	126.93	5.56
<i>Perognathus</i> sp.	3.33	75.83	3.33
<i>Thomomys umbrinus</i>	16.66	468.17	20.48
<i>Sceloporus magister</i>	3.33	9.89	0.43
<i>Phrynosoma coronatum</i>	6.66	12.33	0.54
<i>Cnemidophorus</i> sp.	3.33	27.16	1.19
<i>Colubridae</i>	6.66	14.82	0.65
Lepidoptera	3.33	6.07	0.26
Orthoptera	6.66	9.34	0.41
Coleoptera	10.00	10.71	0.47
Chilopoda	3.33	7.97	0.35
Diptera	16.66	18.67	0.82
Plants	70.00	68.95	3.01
Sand	13.33	17.60	0.77
Plastic	3.33	2.40	0.10
Nematoda	20.00	1.00	0.04
Unidentified	23.33	40.30	1.76

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