

-15-

Ecology and Social Behavior of the Mule Deer

James Ruos

Gettysburg College

Project Number 85

During the summer of 1955 between the dates of June 16 and August 20, a secondary study was made on the species of mule deer, Odocoileus hemionus. Three objectives were kept in the foreground throughout this study: 1) to study the ecology of the mule deer in its natural, unrestricted habitat; 2) to observe the social behavior patterns found in this species; and 3) to familiarize the reader, as well as the writer, with the typical habitats and activities of the mule deer. The areas studied were combined into one term, the Teton Wilderness Area, for simplicity.

Description of Habitat Types

Due to the fact that there was much variation of moose habitats it was found necessary to label these units according to types.

1) Spruce-Fir Forest--is classified generally as the climax species for the Teton mountain area. Deer were found to be most frequent in this type of forest habitat. These deer were discovered to be equally distributed in both the closed and open canopies. The open canopy areas offered excellent grazing conditions. This habitat is common at higher elevations.

2) Mixed Forest--are those forested areas common to the occurring change of climax, that is, Lodgepole supplemented by Spruce-Fir. This habitat is commonly found at moderately high elevations (7000 to 8500 feet). Deer were least found in this habitat type of the three major forest units. A solid preference was revealed for the closed canopy areas.

3) Lodgepole Forest--the predominate conifer forest of the lower elevations in the wilderness area. Mule deer were found to be quite common in both the open and closed canopies. These extensive Lodgepole forests often bordered on the larger "Willow-Grass" swamps.

4) Willow-Grass Swamps--the most typical of the moose habitats. Grazing deer were quite common in this habitat. There was a definite preference of the deer to utilize the drier borders of the swamps. The higher willows were used for cover and perhaps occasional browsing, and the swamp grasses for food. Deer beds were not uncommon in this type of locale.

5) Grass-Sage Meadows--are generally classified as hillside meadows found at higher elevations (8000 to 10,000 feet) although some were found below 6500 feet. This habitat is not to be confused with the dry-plains grass-sage habitat. This "Type 5" was found to be a common feeding ground for mule deer. It would be justifiable to state that the Grass-Sage Meadow of the higher altitudes would be the complement of the Willow-Grass Swamp of the lower elevations.

-16-

6) Burned Forest--although several burned areas were visited, no mule deer were observed. These areas occurred at higher elevations of approximately 8500 feet. Lush grasses were plentiful. Late June elk herds were observed on one of these areas. Due to the fact that a limited time was spent on these habitats, no conclusion should be made.

In conclusion--mule deer of the Teton Wilderness Area have adapted themselves to most ecological habitats common to the moose and in general terms, common to the entire area, an exception being mainly the deeply flooded swamps.

Mule Deer Group Associations

During the summer pre-rutting season it was clearly observed that mule deer groups fall into two distinct categories which are listed as the following: 1) Mature Bucks

- a-individual
- b-groups of two
- c-groups of three

2) Does

- a-mature individuals; with yearlings
- b-mature individuals; with fawns
- c-groups of two mature individuals

In no case was a mixed sex group observed during the season.

These groups seemed to be influenced by three principal factors:

- 1) Sex
- 2) Time
- 3) Elevation

Activity of Mule Deer

Activity depends upon five major factors:

- a-season
- b-time of day
- c-atmospheric weather conditions
- d-ground condition
- e-physiological make-up of the individual deer

General conclusions:

- a-sex plays little importance in "factor activity"
- b-elevation is not assumed to be a direct factor, but acts as an element in that in a higher elevation there exists a colder climate and therefore deer tend to become most active at a respectively later time than those deer found at lower altitudes.
- c-deer are most active during mornings and evenings
- d-bedding down generally occurs after 10:-- A.M. in the morning and is assumed to occur after 8:30 P.M. in the evening.

-17-

Range of Activity

It was also concluded that mature buck deer tend to be found at higher altitudes during the summer migration than the mature does without fawns. Does with fawns are assumed to migrate to a lesser extent and are expected to be found in the lower elevations of the range. It was also noted that the maximum elevation attained by migrating deer during the mid-June to mid-August season was found to occur in mid-August.

Special Types of Behavior

Included in the category of special types of behavior are observations of unusual, yet normal, reactions of mule deer in uncommon and common circumstances. Insects including mosquitoes and flies are probably responsible for altitudinal migration. The deer were not greatly disturbed by man. Domestic animals do not produce flight, but deer will yeild to their intrusion. Deer and moose are frequently found together, but apparently deer and elk do not share the same area.