

THE FALL FOOD HABITS OF THE RUFFED GROUSE IN  
THE SYRACUSE AREA OF NEW YORK.

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COMPREHENSIVE studies on the food habits of the Ruffed Grouse have apparently not been made. In the literature available, such accounts as I have found on this subject are merely brief notes on a small number of birds in a few individual cases. Under title of "Notes from Wisconsin," Wilson (Auk, Vol. 33, 1920, p. 14) says, "The crops of ten Ruffed Grouse taken in Chippewa County, November 25 to 28, 1915, were examined and seven found to contain largely the pods of the hog peanut vine (*Amphicarpa*). This vine was very plentiful in the region, trailing over the bushy growth in the burned area." Wilson says further, "The crops of two Grouse collected by Mr. Schorger in November, 1914, were full of catkins of hazel (*Corylus rostrata*). The birds were taken early in the morning."

In regard to the food of Grouse in the Syracuse area, my personal observations show that during the fall the food consists of a great variety of vegetable material as well as some animal matter. No doubt the bird is perfectly able and satisfied to adapt its tastes as required in habitats of great variation in the nature of the food supply. Even within the same locality certain alleged choice foods such as beech and oak mast may be entirely lacking for a period of years, yet the birds do not suffer appreciably.

In making a study of the fall food habits of the Grouse in the Syracuse area, twenty-six crops were examined in the laboratory and an analysis made of the food contents. These crops were collected from birds killed by hunters in different parts of this region, between October 15 and November 15, 1925.

Of the twenty-six crops examined, one was entirely empty. The vegetable material of these crops was identified by Dr. L. H. Pennington, of the Botany Department of the New York State College of Forestry. The animal content, which was almost negligible, was identified by the author. The results of these studies are tabulated below.

The percentages of different kinds of food in the crop contents were arrived at after sorting the material and basing estimates on a careful study of the quantity proportions. Due to the great variety in total crop contents for different birds and the relatively small number of foods found in individual crops, such a plan seemed to provide the most comprehensive record.

The "crop statistics" of eight of the birds which were representative of the kinds of food noted in the others are as follows:

Bird No. 3—Killed October 27, 1925, Constantia, N. Y.

Crop content: Fruit of black alder ( <i>Alnus vulgaris</i> ).....	30.0%
Leaves, black alder ( <i>Alnus vulgaris</i> ).....	1.0%
Leaflet, royal fern.....	.5%
Leaflet, wintergreen ( <i>Pyrola</i> sp.).....	.5%
Beech drops (flowers and seeds in pods, fruits ( <i>Epifagus virginiana</i> ).....	68.0%

Bird No. 6—Killed October 31, 1925

Crop content: Catkins ( <i>Alnus vulgaris</i> ).....	85%
Leaves ( <i>Alnus vulgaris</i> ).....	15%

Bird No. 11—Killed November 8, 1925, Cleveland, N. Y.

Crop content: Nanny berries (532) ( <i>Viburnum lentago</i> ).....	98%
Leaves, partridge-berry ( <i>Mitchella repens</i> ).....	2%

Bird No. 14—Killed November 4, 1925, Constantia, N. Y.

Crop content: Leaf, sheep sorrel ( <i>Rumex acetosella</i> ).....	100%
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Bird No. 15—Killed November 6, 1925, Constantia, N. Y.

Crop content: Leaves, false miterwort ( <i>Tiarella cordifolia</i> ).....	100%
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Bird No. 25—Killed November 14, 1925.

Crop content: Fruit, hog peanut ( <i>Amphicarpa</i> sp.).....	30%
Leaves, false miterwort ( <i>Tiarella cordifolia</i> ).....	10%
Squirrel corn (?).....	60%

Bird No. 5—Killed October 27, 1925, Constantia, N. Y.

Crop content: Nanny berries ( <i>Viburnum lentago</i> ).....	45%
Fruit ( <i>Geum flavum</i> ).....	3%
Wintergreen berries ( <i>Pyrola</i> sp.).....	2%
Alder leaves.....	25%
Leaves, sheep sorrel ( <i>Rumex acetosella</i> ).....	6%
Leaves, birch.....	15%
Spiders.....	3%
Fly.....	
Catkin of birch.....	1%

Bird No. 28—Killed November 14, 1925, Onondaga Co., N. Y.

Crop content: Nanny berries ( <i>Viburnum lentago</i> ).....	80%
Leaves, sheep sorrel ( <i>Rumex acetosella</i> ).....	15%
Berries, wintergreen ( <i>Pyrola</i> ).....	5%

RELATIVE IMPORTANCE OF FOODS AS SHOWN BY ANALYSIS OF  
25 CROPS OF THE RUFFED GROUSE.

20%	of all birds ate an average of	32%	birch leaves
36%	" " " " " "	11.11%	Alnus leaves
18%	" " " " " "	4.25%	partridge berry leaves
36%	" " " " " "	64.66%	nanny berries
36%	" " " " " "	43.6%	sheep sorrel
24%	" " " " " "	24.33%	Alnus catkins
20%	" " " " " "	3.6%	thorn apple
12%	" " " " " "	70%	false miterwort
16%	" " " " " "	27.75%	beech buds
16%	" " " " " "	8%	birch buds
16%	" " " " " "	26%	clover leaves

ADDITIONAL OBSERVATIONS ON FOOD MATERIAL.

The gizzards of several birds were found to contain cherry stones and seeds of thorn apple where such food was not present in the bird's crop—probably due to the fact that the season for these foods was almost gone when the birds were taken.

On November 11 one bird was observed feeding on wild grapes, a food not recorded among the contents of any crop examined.

The leading varieties of food in order of their importance as shown by this analysis were:

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|---|---|
| 1 Nanny berries ( <i>Viburnum lentago</i> ) | 6. False miterwort ( <i>Tiarella cordifolia</i> ) |
| 2. Sheep sorrel ( <i>Rumex acetosella</i> ) | 7. Clover leaves                                  |
| 3. Alnus catkins and leaves                 | 8. Partridge berry leaves                         |
| 4. Birch leaves                             | 9. Birch buds                                     |
| 5. Beech buds                               | 10. Thorn apple                                   |

The amount of food content found in different crops varied greatly. In general the crops with the greatest content showed a very high percentage of one variety of food. Crops Nos. 12, 40, and 28 showed 80% of this food. Crop No. 3 was a very large crop and 68% of its contents consisted of beech drops, some of the pieces being from two to three inches long.

## CHARACTER OF FOOD.

Of the twenty-six crops examined only three were found to contain any animal matter, and two of these contained less than 10% insect material. In physical character, the food as swallowed was coarse. Leaves were swallowed whole or in parts and catkins were often taken in clusters of three. Fruiting clusters of many berries were taken intact and legumes or pods were swallowed whole.

## HABITS IN FEEDING.

During the fall season the natural feeding habits of the Grouse are perhaps considerably affected by the open hunting season, the birds at this time being extremely wary. However, the fall offers the most bountiful supply of food which can be easily reached from a place of concealment at an opportune time during the day. Hunters have learned that Grouse usually collect where choice foods are plentiful. Thus a patch of nanny berries or thorn apples means a likely place to find good shooting.

*Syracuse, N. Y.*