

THE RUFFED GROUSE IN WINTER.

BY R. A. JOHNSON.

(Plates XVIII-XIX)

AMONG naturalists, sportsmen and conservationists, much serious consideration is at present being given to the Ruffed Grouse (*Bonasa umbellus*). The chief reason for this interest lies in the fact that the Grouse has become so reduced in numbers that sportsmen especially, but also naturalists and students of wild life generally, have become alarmed at the possibility that the species may be approaching virtual extermination, or at least that it may become so scarce as to require that it be taken off the list of birds that may be hunted. As to the causes for the apparent reduction of the species, little is positively known.

During the course of natural history studies of the Ruffed Grouse, conducted in northern New York, by the author, observations were made on the winter habits of this species. Note was taken also of any other facts observed in connection with the habits or life history of the Grouse no matter how trivial they might appear.

The range of the Ruffed Grouse may be considered as generally limited to the cold temperate regions which extend very far southward along the principal mountain ranges of the continent. Thus the range is everywhere in the woods from New England and eastern Canada north to the tree limits, west to Oregon and south along the mountain ranges to Georgia, Mississippi, and Arkansas. However, in the southern part of the range, birds are found only in the high altitudes.

The Ruffed Grouse, like most other forms of wild life, is relatively inactive during the severe winter season. The more severe the weather the less active the birds.

During the greater part of the day, throughout the season of cold, snowy weather, the Grouse remains quiet under a low branching conifer, in a snow burrow in the open, or hidden high in the boughs of an evergreen. This habit might be termed day roosting. The places chosen by the birds for this day roosting are not different from those chosen for a night berth. The Grouse is often

reluctant about leaving these roosting places, especially on dark or stormy days. At such times they will remain quiet while one passes within a few feet of them, but if one stops very near the hiding place, even for a very short time, he is likely to be startled by the sudden whirr of the wings as the bird moves to other parts.

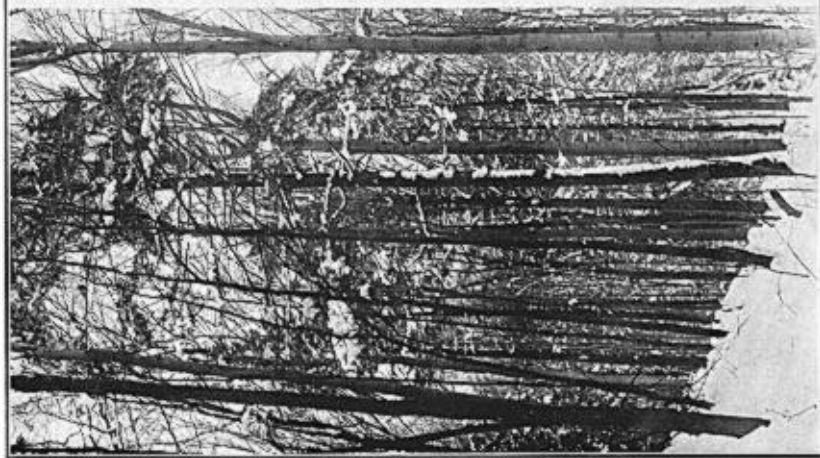
A bright sunny winter day seems to be welcomed by the Grouse as it is by most all creatures of the wilds. On such days, especially after a number of dark, stormy ones, the birds will come from their snow bed to find a quiet, partially protected perch in a conifer where they may expose themselves to the rays of the sun. Such perches are usually in a low tree which the bird has approached by walking from the snow bed to within a few yards of the tree before flying up among the branches. By following back along such a trail, one may find, frequently, under a snow-banked evergreen, the roosting place from which the bird ventured in order to enjoy the sunshine.

In severe weather the Grouse feeds in the very early morning, and in the late evening just before dark. In northern New York where the ground is covered with snow during the greater part of the winter season, all observations indicate that buds and catkins form the greater part of the winter food of the Grouse. Needles of hemlock, and arbor vitae are sometimes taken as food. Frequently, birds are observed feeding on catkins high up in the birch trees, where, by aid of the wings they climb from one branch to another, gathering the food within reach.

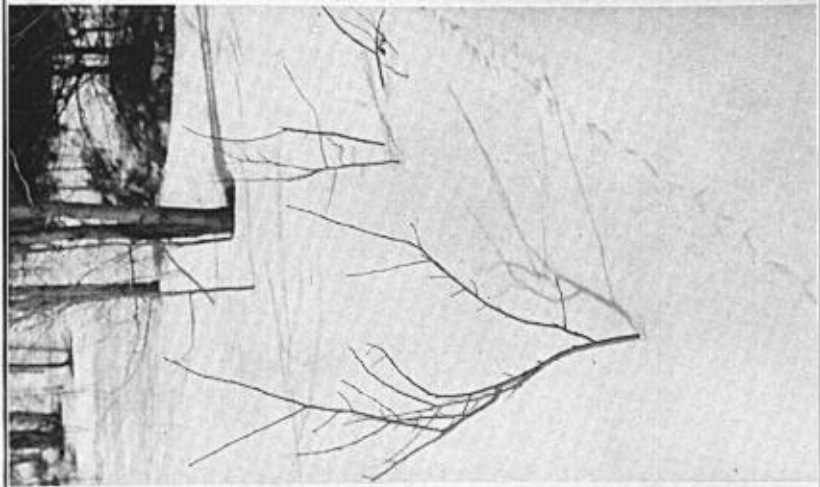
The Grouse chooses to roost alone. The bird may select a dense evergreen and seek a perch in the thickest part, well screened from the weather and its natural enemies. However, in severe weather after some snow has accumulated, it favors a berth in the snow.

In general these snow beds may be said to represent three types. They are thus classified according to their nature and surroundings:

(1) The snow burrow, formed when the Grouse chooses a location in an opening in the woods, or on a slope, and plunges into the loose snow, there forming a nest-like bed completely below the surface. Upon leaving the bed the bird flies directly out never to return to the same burrow. These burrows range in depth from eight to sixteen inches and are directed into the snow at some angle between 45 and 90 degrees.



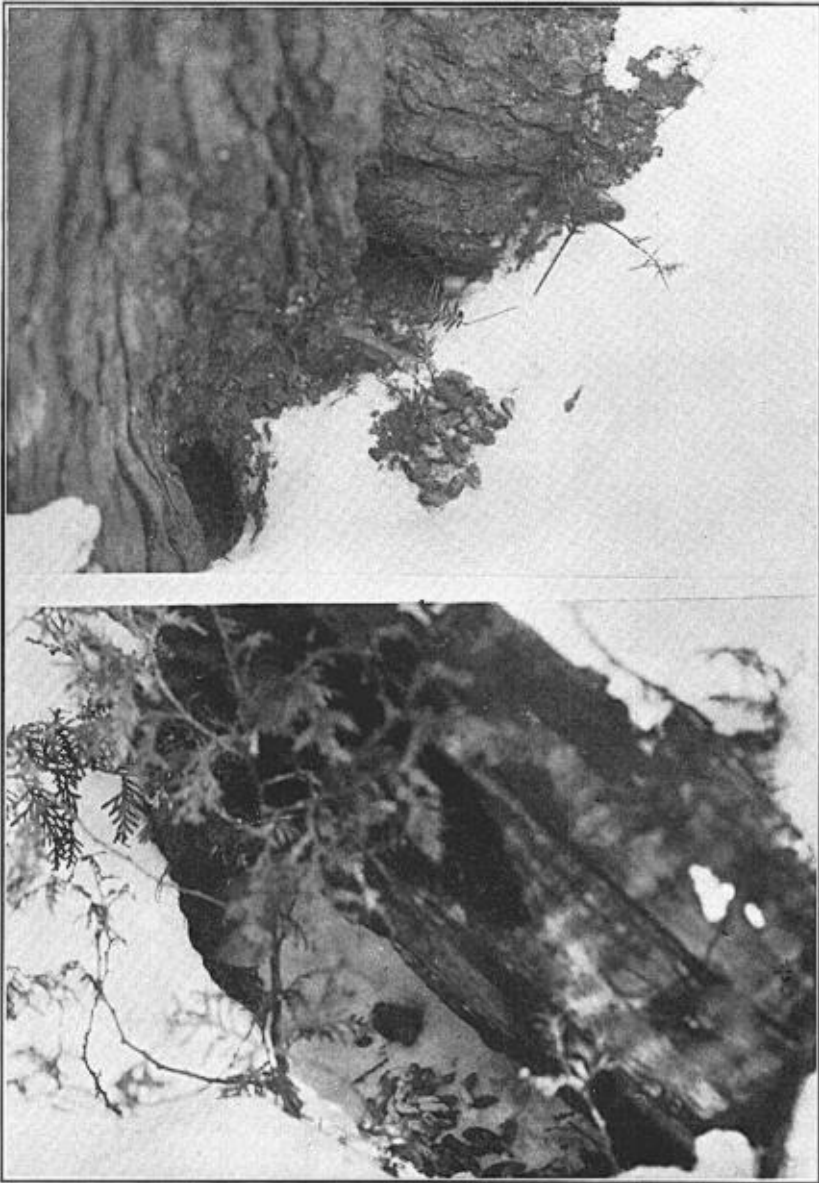
1. ROOSTING PLACE OF GROUSE IN
HIGH HEMLOCKS.



2. GROUSE TRACKS IN SNOW.



3. FAECES OF GROUSE IN SNOW BED
AT BASE OF TREE.



1. CAMOUFLAGE SNOW BED AT BASE OF STUMP.
2. WHERE GROUSE SOUGHT SHELTER FOR THE NIGHT. DIFFERENCE IN CHARACTER OF FECES SHOW THAT SHELTER WAS USED AGAIN AFTER FEW DAYS INTERVAL.

(2) The concealed snow bed, usually under the snow banked branches of an evergreen, rarely under a log or leaning stump. This type of bed is merely a sitting place on the surface of the snow, and resembles a rabbit form. The bird may walk into and out of such a bed, but once settled for the night, it does not shift its position very much.

(3) The camouflage snow bed is located at the base of a stump or tree. It seldom conceals the occupant below the surface of the snow but the dark color of the bird is blended with the dark color of the tree or stump, thus tending towards concealment while at the same time some protection is offered from the wind. This type of bed is often used after the snow has settled, or when an old snow has settled and there is a light, shallow snow on top and when the weather is rather clear.

The flight of the Grouse is very swift. While the bird usually rises with a thunderous roar, it seems to have the ability to get under way at times with very little noise. Often it rises on a curve so that the gunner is likely to shoot under it, and when well under way flies straight ahead out of sight. When flying from an elevated position in a tall tree, the bird seems to curve down for a few yards, thus getting an easier take-off. At such times it usually flies in a straight line and makes very little noise in making the "get-away."

Like all other gallinaceous birds, it spends a great part of its life on the ground. The major part of its activity is that of walking and running. Although as shown by the tracks, which are very close together, the bird covers only a few inches of ground at a step, it can move its feet very rapidly. Very commonly the Grouse runs rapidly ahead of the dog and in thick woods is able to escape the hunters.

It is a common belief that the Grouse because of small horn-like scaly outgrowths along the lateral sides of the toes, thought to be special adaptations, is able to walk on top of the snow. Although very probably these adaptations are of some advantage in this respect, they by no means enable the bird to walk on loose snow.

An interesting characteristic, shown by the tracks, is that as the bird moves forward one foot is placed in direct line and immediately in front of the other.

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