

Investigation followed until there was not a single instance of avian hibernation held by naturalists.

Chapman groups the birds of temperate regions as follows:

1. Permanent Residents — Includes species that are represented in the same locality throughout the year.
2. Summer Residents — Includes species that come to us from farther south in the spring, rear their young and return to the south in the fall. As a rule, the first species to come in the spring are the last to leave in the fall, while the later arrivals are among the first departures.
3. Transient Residents — Includes species which, nesting north of a given locality and wintering south of it, consequently pass through it when migrating. By some writers these are called "birds of passage."
4. Winter Residents — Includes species which come to us in the fall and remain until spring.

Some species like the Snowy Owl and the Snow Bunting are of fairly regular occurrence throughout the Acadian Region, while others like the Bohemian Waxwing and the Evening Grosbeak may be rare and local some winters, or wanting other winters.

For winter work make lists of your winter birds under the headings: Permanent Residents, and Winter Residents. Spring and summer work should take up the other groups.

Since food is chief factor in determining bird migration find out as far as possible the food of each species of your winter birds. Is food reasonably plentiful for each species in your locality? Is there any way it could be easily increased for certain species, such as by planting shrubs and trees, etc., that keep their fruit on during the winter? Keep this in mind for next Arbor Day.

What natural protection has each species against the cold of winter? How does it serve as a protection? Correlate this with lessons on the conduction of heat, etc.

Have birds hit upon other means of protection against severe frosts? In this connection note that they seek shelter from storms and cold. What kinds of shelters do they make use of? A most peculiar instance is found in the burrowing or diving of the Partridge into the light snow to escape the frost of winter nights. Where do they find protection when the snow is too hard or there is too little of it for them to burrow in?

What is the range of each species of our winter birds? Where is the summer home of our winter migrants?

Study closely the food habits of permanent residents as opportunity offers. Which are insectivorous? Which seed eaters?

Study their nesting habits. Where are their nests placed? Of what kinds of materials are

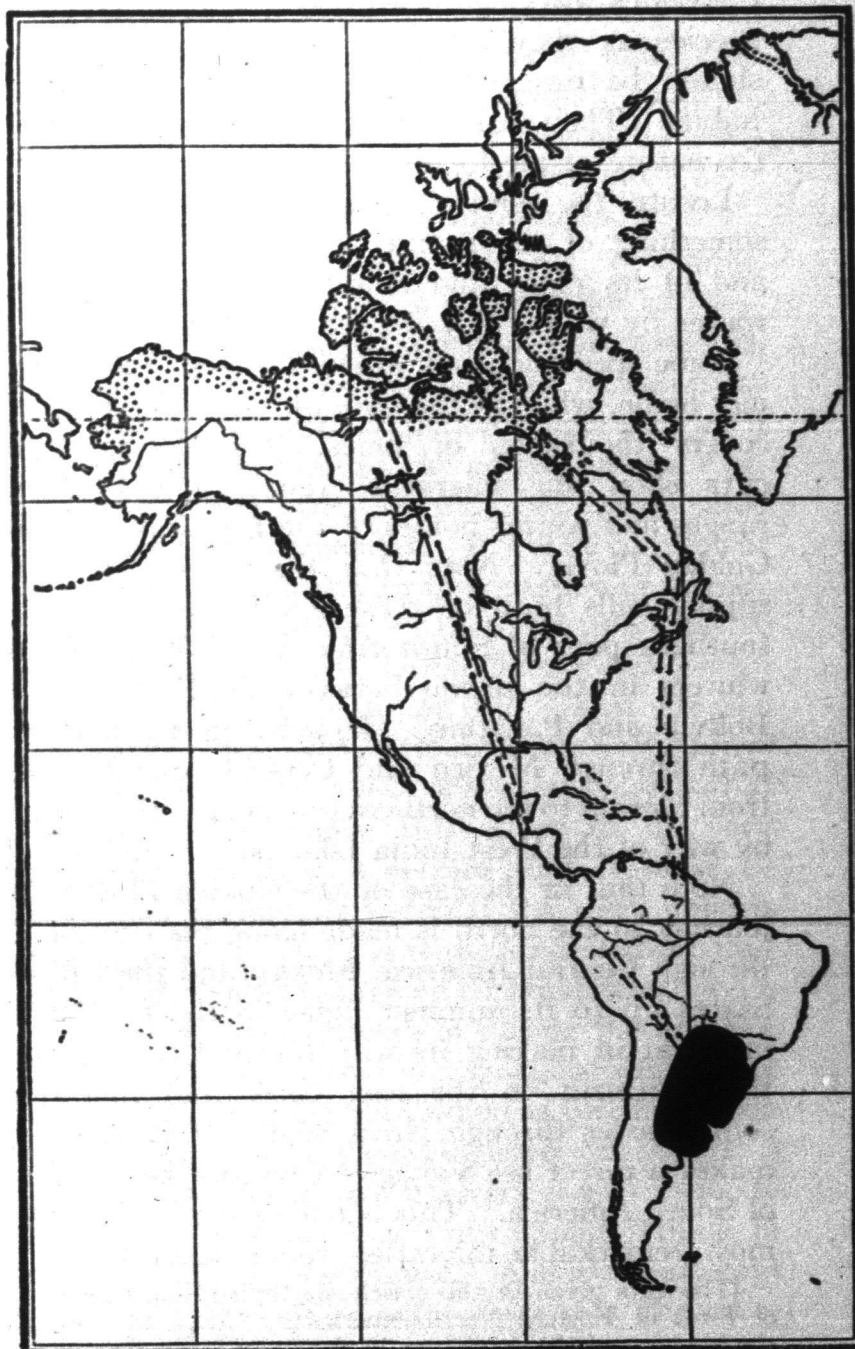


FIG. 2. MIGRATION OF THE GOLDEN PLOVER.
Dotted area, Breeding range; Black area, Winter range;
Arrows, Migration route.

they made? Next summer watch for the eggs, and note their number, size, color markings, variations, etc.

Study the local movements of the different species on account of food, nesting, etc., and