

to breed. It seems quite impossible to discover any reason for the difference in the migration of these closely allied forms. Failure of food cannot be the cause of the early migration of the Wilson Thrush, for at no time in the year are insects and wild fruit more abundant than in August and September; nor can it be attributed to cold, these two months being the warmest of the year. The same difference is found between the Nighthawk and the Whip-Poor-Will. These birds are much alike in everything and would seem to be adapted to the same conditions, yet the Whip-Poor-Will remains here for a month or five weeks after the Night Hawk has gone, the bulk of the Nighthawks leaving about the end of August. Among the shore birds (Plovers and Sandpipers) the difference in the time of their departure is still more noticeable, many species commencing their southern migration early in July and leaving us entirely by the beginning of September, while closely allied forms do not appear here until October and remain until the first hard frost. Instances of this difference between closely allied species may be found in so many groups of our birds as to render it certain that neither failure of food supply nor unfavourable climatic conditions can be accepted as the immediate influence which governs migration in all species.

When the spring migration from the south northward is studied the difference in method and range between allied species and of individuals composing the species is very great. Among the warblers are some interesting examples of variation in the extent of migration. The Yellow Warbler, Black-throated Green Warbler, Black and White Warbler, and some others, winter south of the United States. On their return they do not travel far before they begin to select summer quarters and they breed from the southern states all through their range to Northern Ontario. The Magnolia, Myrtle, Blackburnian, and Black-throated Blue Warblers winter in the same region as the others, but they pass over the United States entirely and with few individual exceptions go to the north of this province before nesting, while the Blackpoll Warbler undertakes a most extended migration, the equator and the Arctic Ocean being the extreme points of its journeys. The same difference in extent of migration of the species is to be found in almost every group of our land birds. Not only is there a great difference in the extent of the migration of allied species, but in certain cases some of the individuals which compose a generally migratory species never migrate at all. The common Bluebird affords an example of this peculiarity. All through the southern states the Bluebird is a resident, its numbers in the winter being increased by migrants from the north. At the approach of spring they gradually spread out from their base, working northward as the season favors them until they reach the limit of their range; which, by the way, has been considerably extended as the land has been brought under cultivation. All over the area from the Gulf of Mexico to Northern Ontario and Southern Manitoba the Bluebird finds suitable breeding conditions and so do other species. Why then do birds incur the perils involved in migration? As winter comes on in the north we know that they must leave that region, or the intense cold and failure of food would destroy them, but that does not explain the spring movement at all, for we see that many individuals of migratory species find the climate conditions and food supply of the south perfectly suited to their requirements. I can only infer that, as I have said, the impulse to migrate is an express provision for the dispersal of birds over the earth during the period when their services are most required for the maintenance of the balance of nature. This impulse is undoubtedly hereditary in regularly migrant species, for young birds brought up from the nest in captivity always become possessed of a spirit of restlessness during each flight season, particularly at night.

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