

## ENTOMOLOGY FOR BEGINNERS.

*MIGRATORY INSECTS.*

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The migratory instinct, common to so many species of birds, and even of mammalia, is also exhibited by many species of insects. In the case of birds and animals it has mostly to do with variations of climate, or the necessity of suitably providing for the raising of their young ; in the case of insects the causes of migrations are not so evident, and observation is required in order to decide the point, if, indeed, it can be decided at all. The subject is still in obscurity, though the efforts of American Entomologists have thrown a little light upon it with regard to some species. And it is of great interest, not only to Entomologists, but also to tillers of the soil, as some of the insects which exhibit this migratory instinct are among the most injurious to the crops of the farmer and fruit grower.

## THE LOCUST.

Chief among the migratory insects stands the locust, considered as a group. On each of the continents, both of the old and new worlds, some species of the locust tribe have from time to time been notorious for this habit, not only on account of the countless numbers in which they have appeared, but also on account of the terrible destruction they have caused. As far back as the time of Moses their ravages are mentioned, for one of the plagues brought upon Egypt just before the departure of the children of Israel was the plague of locusts. In Asia, Africa and Europe their invasions have been recorded in history, both ancient and modern. To show the magnitude of the effects consequent on their migrations, I give a few instances, as taken by Dr. Packard from different historical sources. The first account, after Joel in the Bible, whose descriptions apply to Egypt, Syria, Palestine and Asia Minor, is the statement of Orosius that in the year of the world 3800 certain regions of North Africa were visited by monstrous swarms ; the wind blew them into the sea, and the bodies washed ashore "stank more than the corpses of a hundred thousand men." Another locust plague, resulting in a famine and contagious disorders, according to St. Augustine, occurred in the Kingdom of Masinissa, and caused the death of about 800,000 persons. Pliny states that the locusts visited Italy, flying from Africa. In Europe