

water Shales, and the "Tar Sands" as one formation. This is a marine formation, stratigraphically equivalent to the Dakota, the fossils of which are practically the same throughout, and although no corresponding marine fossils are known elsewhere in the west, it appears to represent the marine conditions of the Dakota Period.

BIRD MIGRATION 1898.

To the Editor of the Naturalist.

The bird migration of the present spring, so far as it has yet progressed, has developed some features which I think are worthy of note.

The usual course of the migratory movement of the earlier part of the season may be described somewhat as follows:—As soon as the March thaw has made sufficient progress to lay bare a good part of the surface of the ground—say one-third—the earliest of the true migrants begin to arrive. The song sparrow and the robin are generally first, but they are followed in three or four days, if not actually accompanied, by the bluebird and several species of grackle. These are all ground-feeders, at least at this time, for the winter visitants and the storms have stripped the trees and shrubs of the last remains of last season's fruits and seeds, so that the only food supply is that which has lain all winter under the snow. Should the warmth of the sun bring out a few winged insects in sheltered nooks, an odd phoebe will be found looking after them; but he may be considered a venturesome pioneer, while all the other flycatching birds still linger in their winter homes. Probably every individual of these first arrivals will have spent, at least the latter part of the winter in Southern New York or Pennsylvania, for the first two species regularly winter there while the others, though retiring somewhat further south at the commencement of the cold weather, begin to push northward early in February.