Spotted Flycatchers are very numerous. They feed on all sort of flies and small insects. Any one will be able to identify this bird by his mode of feeding. He generally sits on a post or wire fence, lets a dart at a passing fly and then alights where he started from. In confinement feed same as Redstarts.

Wagtails are plentiful, and make delightful pets. I have kept the Yellow, Grey, and Pied, and don't know of any bird which takes so kindly to cage life. They will follow you all over the place to get a meal worm from you. They feed on all sorts of flies and small insects. In confinement feed same as Redstarts.

Jenny Wrens are very plentiful, and feed on all sorts of small insects. In confinement feed same as Golden Crested Wren.

NOTE ON OVIPOSITION OF A DRAGONFLY.

By A. J. A. Woodcock, M.Sc.

A great many interesting facts in the life histories of this group of insects are yet unknown—the number of those who investigate them being very small. The following observations, which I made two years ago and confirmed again this summer, concerning one particular species, may be worth recording, as I have not read of any similar observations in accounts of the species. The dragonfly is a large black and yellow banded species, known to entomologists as *Cordulegaste annulatus* on account of the club-like appearance of its abdomen, and the only reference I can find to its egg-laying processes is the solitary statement that it *apparently* lays its eggs by dipping its abdomen at random beneath the surface of the water.

My observations were made during the month of August. The females observed haunted a running stream and deposited their eggs close to its banks. The method adopted was to bounce rapidly up and down in a shallow part of the stream, the insect holding itself in a vertical position while the whole of the abdomen was at times immersed in the water. As this part of the body is more than three inches long and the water was certainly not so deep as that the process must have involved touching the mud at the bottom, in which, perhaps, the eggs would be caught and so be saved from being carried away by the stream. That the insects were ovipositing while engaged in this process is clear from the fact that two which were caught left, in each case, several eggs upon the net. These were very small for so huge an insect, oval in shape, and of a greyish white colour.

While watching a female engaged in this process I observed a male dragonfly of the same species swoop past. The two rose together rapidly into the air: the male glided over the back of the female and gripped it by the neck with the clasping apparatus at the tip of its abdomen, in the position known to entomologists as *per collem*. The whole set of movements was so quick that it was difficult to observe. Whether the intervention of the male was to assist the female in the act of oviposition as is known to be the case with several other species, e.g. the blue dragonflies, or was with a view to the fertilisation of a further supply of eggs could not be ascertained, as the couple, after wheeling around overhead for a few moments, made off, and were soon lost to sight. It may be added that the females were strangely lacking in caution during their egg-laying, and were much more easily caught than is the case with these insects at ordinary moments.

NOTE ON *LIBELLULA QUADRIMACULATA*.

This very fine dragonfly, known by its robust abdomen and the four spots, one on each wing, was extremely common in the early part of June at the Bull Loch. On a hot day very many specimens could be observed flying over the water, settling on the rushes or careering over the heather, in which latter act, their large wings, vibrating so rapidly, gave them the appearance of flying in a mist. On the occasion of my visit there must have been several dozen of them on the wing.

SEISMOLOGY: OR THE THEORY OF EARTHQUAKES.

BY ROBERT FERGUSON, M.A.

[Read 7th March, 1911.]

EARTHQUAKE ZONES.

By placing on a map the places where earthquakes have been recorded, and shading the regions of most frequent recurrence darker than the others, the earthquake tracts of the historic period can be understood. In general they run along the lines of the volcanic cones of the earth; but there are some remarkable exceptions. A map thus shaded would show how very general these phenomena are. It is, doubtless, true that the earthquake is not recorded by savages, and that there are vast uninhabited tracts on the earth which can yield no histories; and it is important to observe that the blank spots on the map of earthquake distribution relate mainly to Greenland, Continental America north of 60° N., Asia north of the Arctic Circle, and most of Northern Europe and Asia. Africa, except slips to the north, by the Red Sea and on the extreme south, is a blank space, and so are Australia, except the sea coast on the east, and South America east of the 65th parallel of longitude W.

The tints denoting regions subject to occasional severe earthquakes will, of course, follow the lines of eruptive mountains, now more or less in activity, for distant volcanoes burst forth contemporaneously along great distances, and science advances the theory of deeply seated spaces where igneous rocks and gases and water are stored under immense pressure. The nearer the volcano the more severely felt will