

kers so that it would be possible to determine the species and thus know if it is abnormal habit.

The nest in question consisted of a globular portion which was abruptly contracted below into a long, slender, vertical neck of practically uniform diameter. This slender neck served as the only means of entrance into the structure.

The writer wishes to state that he once found one of these unique nests at Oxford, Mass., many years ago. This nest was kept as a curiosity in the writer's collections for many years and did not fail to excite the wonder and admiration of those who saw it. In size and shape this nest was similar to the one found by Newhall at Shelburne, Mass. Newhall states that he found his specimen under the eaves of a building. As well as the writer can remember, the nest which he found at Oxford, Mass., was suspended from a small branch of a tree not far from the ground. The maker of the nest was never seen. Although the writer has always kept a sharp eye open since for other specimens of this kind, none has ever been seen. It would be of considerable interest to know whether the two unique nests in question really represent abnormal deviations of habit for some well-known species, or the normal habit of nest-construction for a very rare and little known, or even unknown, species.

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SYNCHRONISM IN THE FLASHING OF FIREFLIES

THE articles on the flashing of fireflies which have appeared from time to time in SCIENCE have aroused my desire to experiment upon the subject. The presence of two individuals of the firefly, *Photuris pennsylvanica* DeG., in my tent at the University of Michigan Biological Station at Douglas Lake, Mich., on the evening of July 17, 1917, gave me my first opportunity. With the tent dark, I watched the two fireflies for about ten minutes. For a while they flashed alternately, but it soon became apparent that one was flashing a trifle more frequently than the other. Consequently, once in every two and one half to three minutes flashing was simultaneous. Then for

about twenty minutes I experimented with a three-celled vest pocket flashlight with the following results. I could easily get in rhythm with the firefly, but I could not make the firefly change its rhythm and keep with me. Sometimes the fireflies would stop while I was flashing the light and again they would continue to flash after I stopped flashing. At no time could I control their flashings. The flashlight and the two fireflies flashed simultaneously when I synchronized with one of the fireflies until its time interval brought it into coincidence with the other.

On the evenings of July 19 and 25, 1917, I had opportunity to carry the experimentation further—on each occasion with a single firefly. The same kind of results were obtained from these experiments. However, I discovered that when I brought the flashlight within 25 centimeters of the firefly it ceased flashing and did not recommence until after I had ceased flashing or until I had moved the flashlight back a meter or more.

On many evenings at the College of Agriculture of the University of the Philippines, at Los Baños, I have watched splendid fireflies, of which there are large numbers in the immediate vicinity. I frequently noticed that small trees and shrubs would be more aglow at certain times than at others, but I never happened to observe a time when a small tree or shrub was all alight one instant and dark the next. In my experience there were always some fireflies flashing in the "dark" periods. The times of greatest light occurred when the greatest number of varying flashes coincided.

From these observations and experiments it seems to me that complete synchronism in the flashing of a group of fireflies is simply a very rare accident, occurring when the flashes of the individuals chance to come at the same time.

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UREDINIA OF CRONARTIUM RIBICOLA ON RIBES STEMS

DURING the past season uredinia of *Cronartium ribicola* Fischer have been discovered for