effect being looked for, another change, proportional to the square of the angular velocity, was found and traced to the radial expansion of the rod produced by rotation.

The intensity of magnetization per unit speed produced at the center of the iron rod was about 1.5×10^{-6} c.g.s. unit per r.p.s. If the rod had been rotated at the speed of the earth, viz., 1/86400 r.p.s., its intensity of magnetization would have been about 2×10^{-10} that of the earth, and still less if the shape had been spherical. This, however, does not prove that even a very large part of the earth's magnetization may not be due to the effect in question, as we are entirely ignorant of the magnetic properties of all substances under the conditions prevailing within almost the whole of the earth. Schuster has pointed out that an effect of this kind may explain both the mean magnetization of the earth and the secular variation as well. It seems more likely, however, that a large part of terrestrial and solar magnetization is due to other causes, such as the outward radial displacement of electrons by centrifugal and thermionic action.

A full account of the work summarized here, and presented to the American Physical Society at its meetings of last December and April, will be published in the *Physical Review*.

S. J. Barnett

The Ohio State University

The Pond-Lily Aphid as a Plum Pest[1]

One of our best-known aphids common upon various water plants is *Rhopalosiphum nymphææ* (Linn.). This has received considerable attention as a "semi-aquatic" species which on account of the waxgland areas of its body appears to be particularly adapted to a life in moist localities and to suffer no inconvenience from contact with water while feeding on aquatic plants.

An account of this species under the title "A Lacustrine Aphid," by Professor T. D. A. Cockerell, appeared in Science (Vol. 22, p. 764) in 1905, and it is not necessary here to discuss the aquatic phases of its career, but merely to call attention to another chapter in the life cycle of *Rhopalosiphum nymphææ*—which proved a surprise to the writer and has evidently remained unsuspected by other observers of this species from Linné down to the present time.

One of the most troublesome of our plum aphids in Maine is a species inhabiting the shoots and the ventral surface of the leaves, ordinarily without causing curl or similar deformation of the leaf, but exhibiting a dangerous tendency to feed also upon the young fruit itself as well as tapping the fruit stems.

After watching this plum aphid several years, and wondering where its summer home might be (for it is a migratory species, leaving the plum in June), it finally dawned upon the writer that there were apparently no structural characters to separate this from the common pond lily aphid, *R. nymphææ*. Peculiar waxgland areas and all, the plum pest appeared to be identical with the species long known to science upon various water plants.

This spring the writer made the "migration test" by placing the spring migrants (alate viviparous forms) from plum upon water plantain, *Alisma Plantago-aquatica;* arrowhead, *Sagittaria latifolia;* and cat-tail flag, *Typha latifolia;* which had been potted and kept under laboratory control. These three plants are on the approved dietary of *R. nymphææ* and the plum migrants accepted them all readily, and the progeny of the plum migrants are perfectly content with the habitat given them.

Thus the life cycle of the ancient aphid is found to include a residence upon the plum, migrating thence to water plants for the summer and returning to the plum in the fall for the deposition of the over-wintering egg which provides for its spring generations upon that tree.

It is not the purpose of this note to discuss the synonymy of the aphid here considered, but it might be stated that it apparently exists under a name more recent than *nymphææ* in its rôle as a European plum pest.

Edith M. Patch

[1] Papers from the Maine Agricultural Experiment Station: Entomology No. 75.