THE SPINNING HABITS OF NORTH AMERICAN ATTACI.

BY F. M. WEBSTER, URBANA, ILL.

The note in the CANADIAN ENTOMOLOGIST for April 1903, by the late Prof. A. R. Grote, the one by Mr. J. Wm. Cockle, in the May number for the same year, and the one in the April 1904, number, all relating to this subject, have interested me greatly.

Over 25 years ago I observed and recorded for the first, I believe, the destruction of the pupæ of our very common *Samia cecropia* by the Downy Woodpecker, by puncturing the cocoons and feasting on the juices of the occupant. The habit of the insect in attaching its cocoon firmly to and parallel with the twigs and smaller limbs of trees places them at the mercy of these birds, especially during that part of the year when the trees are devoid of foliage. It has seemed me that this habit of the bird has become more apparent during this time, but this may be on account of my paying more attention to the matter, and thus having seen more of their work.

I have been watching to see if the insect would gradually come to adopt a less dangerous cocooning habit, but up to the present time have not myself observed any notable variation from the old-time custom. In the case of *Tropæa luna*, the problem appears to have been solved by the larvæ cocooning on the ground among the fallen leaves, while *Telea polyphemus* seems to have but partly arrived at a similar solution by largely cocooning on the ground, while *Callosamia promethea* has entirely outgeneralled the woodpecker by swinging her cocoon, enclosed also within a folded leaf, and attached to the twig or limb by a stout silken thong, which allows the whole structure to dangle some distance below the point to which it is thus anchored. In this position the cocoon responds to the impact of the beak of the bird, which, instead of penetrating the cocoon, simply pushes it away, to at once swing back into place uninjured. Whether these are the results of a gradual change of cocooning habits or not, the effects are as given. *Telea polyphemus* has long been known to spin her cocoon largely upon the ground; the experience of Mr. Denny about Montreal being exceptional, and therefore very interesting, and especially so as the habit appears to vary with different years. If Mr. Denny would consent to observe, if possible, the interrelation of the woodpeckers with this species, and especially if the cocoons fastened to the twigs or limbs of trees are destroyed by these birds, it will be possible for him to make a decided accession to our

knowledge regarding this interesting subject, for the tree-cocooning habit in this instance seems to be rather abnormal, and raises the question as to whether it is in that locality rather behind in adopting the terrestrial habit of cocooning, or in advance in abandoning that and adopting that of cocooning in the trees inhabited by the larvæ. This will also aid Mr. Cockle in solving his equally interesting puzzle as how to account for the same insect in his locality cocooning after the manner of *C. promethea*. And this last gentleman can also do science a lasting service if he can throw any light on the interrelation of the species and the woodpeckers in his locality. We have in these notes some very interesting facts relative to the habits of some of our common species of Attaci, but we cannot without further observation and more facts decide whether these phenomena are due to natural selection and a change of habit or whether they are perplexing coincidences. Then, too, possibly others may have some observations to offer that will help us in getting more light on the subject.

A COUPLE OF QUERIES.

BY REV. G. W. TAYLOR, WELLINGTON, B. C.

In his Monograph of the Geometrid Moths, Dr. Packard described and figured two moths as *Metanema quercivoraria*, Guenée, and *Endropia textrinararia*, Grote and Robinson. He placed them in different genera and had apparently no doubts as to their distinctness.

With regard to *M. quercivoraria* (page 544), he does not state what material he had before him, but his figure, pl. XII., fig. 39, clearly represents a female with simple antennæ. In giving the dimensions of the moth, however, he speaks only of the male. Packard suggests that *M. aeliaria* of Walker may be a synonym, and Hulst (Ent. News, VI., 14), from an examination of the type, confirms this. *M. aeliaria* was described from the female only.

M. quercivoraria is also figured by Holland in the Moth-book, pl. XLV., fig. 28, and again it is the ♀ that is represented.

Endropia textrinararia was described and figured by Grote and Robinson from the male only. Packard (Mon., 507), redescribes it from 3 ♂ specimens. His figure is also of a ♂, and he makes no mention of the female.

Hulst, in his "Classification" (Trans. Am. Ent. Soc., XXIII., p. 378), brings the two insects together, placing them side by side in the genus *Metanema*.

Both forms have the same range, and both occur with us in British Columbia.