Putting aside the European forms, which do not appear to occur in America, we have two elongate species and two short ones. Our scale on *Q. rubra* evidently belongs with the latter. The main distinction between *antennatum* and *quercitronis* is in the antennæ, and here we see at once that our form falls in with the former, having the third joint very much longer than 4. There would seem, however, to be a slight difference in the legs.

On the whole, the evidence so far obtained cannot be said to support the view that the Canadian insect is new, and distinct from *antennatum*, though it may stand as a variety. For the present it can be recorded as *Lecanium antennatum*, Signoret, variety.

PROTECTIVE MIMICRY IN SPIDERS.

BY F. M. WEBSTER, WOOSTER, O.

In the concluding volume of his admirable work on "American Spiders and their Spinning Work," page 47, Dr. McCook gives the experiences of Mr. H. O. Forbes, and myself, with two species of spiders, whose forms and habits of spinning webs on leaves, together with the peculiar coloration of their bodies, gives them a deceptive resemblance to the droppings of birds. Dr. McCook tries to account for the phenomena of this protective resemblance, by attributing it to the results of natural selection.

Now, it seems to me that natural selection, alone, would not have carried the deception so far as seems to have been done in these cases, and I think, away from their curiously arranged web, these spiders are not so deceptive in appearance, and that the spider has itself learned that by remaining in a rigid position on a sheet of web, arranged in a certain way on the leaf, it will be enabled to escape its enemies, and, what may be of almost as much importance, secure a better supply of food.

To suppose this is hardly over-estimating the intelligence of these spiders. In my own case, I have thought that the deception might have been due, in part at least, to myself, and have often thought that on meeting with it a second time I should recognize it without much trouble.

The Doctor has apparently overlooked the fact that Mr. Forbes

met with his spider a second time, and was even more badly fooled by it than before. In Proc. Zool. Soc., 1883, p. 586, he gives his experience as follows:—

“On June 25th, 1881, in the forest near the village of Lempar, on the banks of the Moesi River, in Sumatra, while my “boys” were procuring for me some botanical specimens from a high tree, I was rather dreamily looking on the shrubs before me, when I became conscious of my eyes resting on a bird-excreta-marked leaf. How strange, I thought, it is that I have never got another specimen of that curious spider I found in Java which simulated a patch just like this. I plucked the leaf by the petiole while so cogitating, and looked at it half listlessly for some moments, mentally remarking how closely that other spider had copied nature; when to my delighted surprise, I discovered I had actually secured a second specimen, but the imitation was so exquisite that I really did not perceive how matters stood for some moments. The spider never moved while I was plucking or twirling the leaf, and it was only when I placed the tip of my finger on it, that I observed that it was a spider, when it, without any displacement of itself, flashed its falces into my flesh.

“The first specimen I got was in West Java. While hunting one day for lepidoptera I observed a specimen of one of the *Hesperiidæ* sitting, as is often a custom of theirs, on the excreta of a bird on a leaf; I crept near it, intending to examine what they find in what one is inclined to consider incongruous food for a butterfly. I approached nearer and nearer, and at last caught it between my fingers, when I found that it had, as I thought, become glued by its feet to the mass; but on pulling gently, the spider, to my amazement, disclosed itself by letting go its hold. Only then did I discover that I was not looking on a veritable bird’s excreta.”

Since reading of Mr. Forbes’s later experience I have given myself no mental promises as to how readily I should be able to recognize *Madam Misumena vatia* (?) when I next meet her unexpectedly. Unless greatly mistaken, I have beaten this same spider from branches of trees while collecting beetles, and experienced no difficulty in recognizing its nature as it dropped into an inverted umbrella, and am quite sure that, without the white web on the leaf, which resembles the white splashings of the semi-fluid excreta, it would be far less deceptive.