EGG-LAYING OF LIMENITIS DISIPPUS.

On 12 July, in Sugar Hill, N. H., I saw a female *Limenitis disippus* flying heavily over a bank by the roadside. This bank was covered with young poplar shoots, and, seeing the butterfly settle on one of these, I followed her, and saw that she laid an egg on the tip of a leaf and then flew away. Picking the leaf, I followed her to the next shoot which she selected, and continued the chase until I had collected seventeen eggs. Then the butterfly rose higher in the air, flew to an ash-tree, and was hidden in the leaves. A shower was near, and rain began to fall in less than five minutes after she disappeared.

The eggs all hatched in due time, and produced eleven males and six females, all perfect.

One peculiarity of this female was that she laid more than the "one egg at the very tip," which books and pictures have led us to expect.

One leaf had four eggs; one at the tip, two on one edge near the tip, and one on the other edge near the tip. Another leaf had two; one on the tip, the other near it. The third leaf had three irregularly placed near the tip.

Afterwards I found four eggs, two on each side of the tip of a willow-leaf, but these were not near the same place, and were the only eggs of *L. disippus* that I found on willow. I found no larvae on willow, while they were very abundant on poplar shoots close by. In fact *L. disippus* was more abundant this summer than I have ever found it before.

Caroline G. Soule.

A SPHAERULARIA-LIKE WORM.

In the *American naturalist* for January, 1886 (v. 20, p. 73-75), I called attention to some of the peculiarities of *Sphaerularia bombi*, a nematod parasitic internally in species of bumble-bees (*Bombus*), and to the fact that a species of *Sphaerularia* was found in America. One remarkable peculiarity of *Sphaerularia* is that the genital organs of the female evaginate, and form, when they have attained their full size, a worm-like body. The evaginated ovary is so large in proportion to the worm itself, that the latter was, for a time, overlooked by naturalists, and the evaginated portion was described as a worm.

Professor R. Leuckart, whose researches have done much towards completing our knowledge of the life-history of *Sphaerularia*, has published, in the *Zoologischer anzeiger* (20 Dec. 1886, v. 9, p. 743-746), a preliminary communication entitled, "Ein spaerulariaartiger neuer nematode," in which he gives an account of the structure and habits of a nematod allied to *Sphaerularia*, to which he gives the name of *Asconema gibbosum*. This worm was discovered in the body-cavity of *Cecidomyia pini*, even in the larval state. The worm is about 0.6 mm. long, and the adult female bears, upon the ventral surface near the posterior extremity, a bean-shaped process about 0.25 mm. long. The digestive tract does not form a tube in the adult, but is reduced, as it is in *Sphaerularia*, to a chain of large cells.

The eggs of *Asconema* fall into the body-cavity of their host, the *Cecidomyia*, where they hatch, but the young do not reach their sexual development until they are set free from the host, by the death of the latter. Sexual union takes place within a few days after the *Asconema* are free from their host. After this the males die and the females that get the opportunity pass into the *Cecidomyia* larvae, which inhabit soil composed of decaying pine-needles. Again in the body-cavity of a *Cecidomyia*, the female develops and evaginates its genital organs, while the digestive tract becomes rudimentary. The ovaries of *Asconema* are not so large as those of *Sphaerularia;* while the latter worm requires a year for its development, *Asconema* develops in a few weeks.

G: Dimmock.