

Mr. Howard held that the eye-spots of some of the Coccids ought to be called true eyes, and in this was supported by Prof. Riley, who stated that the young all have eyes.

Prof. Riley further stated that vision must be very feeble in insects such as larvæ having eye-spots only, and also called attention to the somewhat remarkable fact of adult insects with highly complex eyes coming from eyeless larvæ, as is especially the case in Diptera.

Prof. Riley presented the following :

#### NOTES ON THE LARVA OF PLATYPSYLLUS.

BY C. V. RILEY.

The discrepancy in size between the larva of *Platypsyllus*, as hitherto described, and the mature insect, has led me to suspect that the last larval stage as well as the pupa remained to be discovered.

A specimen recently obtained and described and figured by me (*Entomologica Americana* for February, 1890, pp. 27-30), as the "Ultimate Larva," is in general appearance strikingly Mallophagous, and a few points may be mentioned as not sufficiently emphasized in the published description. The arrangement of setous hairs on the venter recall that in the adult, while the raised dorsal points, though unarmed, foreshadow somewhat the setous points on the dorsal abdominal joints of the adult. Remnants of the anal cerci of the earlier larval stages are noticeable in the two slight swellings on penultimate joint, each surrounded by a series of short spinous hairs. The spiracles are small and lateral, but may be detected with difficulty at the inner angle in the notch between the abdominal joints. The prothoracic spiracle has not been detected.

I have, in the paper alluded to, raised a parenthetical question as to this being the final form of the *Platypsyllus* larva, but the position and character of the mouth parts, and particularly the single-jointed tarsi exclude it from the Mallophaga, while its general characteristics, though departing in so many respects from the earlier larva, have caused me to refer it to *Platypsyllus*—a reference which its occurrence on a beaver, in connection with other stages of *Platypsyllus* and with no other similar insect, strengthens. The principal feature that would shake one's faith in this reference is the presence of ocelli, since none occur in the earlier larva nor in the imago, and

while such a feature is abnormal under the circumstances, it is no more so than many of the other features of *Platypsyllus*.

In the discussion of this subject, Mr. Schwarz held that, if not the ultimate larva of *Platypsyllus*, it is certainly Coleopterous, and cannot be referred to the Mallophaga. In the Coleoptera, the Staphylinid genus *Amblyopinus* is known to be parasitic on terrestrial rodents, two species having been found in the fur of mice and rats, one in South America and the other in Tasmania. We might reasonably expect to find this genus in North America under similar circumstances, but a glance at Prof. Riley's larva shows that it cannot possibly belong to the *Amblyopinus* nor to any other genus of Staphylinidæ.

Dr. Marx read the following paper :

A CONTRIBUTION TO THE KNOWLEDGE OF NORTH  
AMERICAN SPIDERS.

BY DR. GEO. MARX.

In a large collection of natural history objects from all parts of this country the student will find some specimens, which, by their peculiar and strange morphological features, he cannot place in any of the established families. They lie, consequently, buried in the collection, and are thus lost to science.

I possess in my collection of North American Arachnida a number of such new forms, which I have hitherto been unable to place in any established family. The principal cause of this difficulty is that the American Arachnologist has still to follow the classification of the European Arachnida, and that no attempt has so far been made to work out, independently, a systematic arrangement, based upon the spider fauna of America. Mr. E. Simon has lately published a list of families of extra-European Araneæ in a systematic order,\* and he has promised

\* Simon, in his "Remarques sur la Classification des Araignées" (Études Arachnologiques, 22e mémoire, Annales Soc. Ent., France, 1890, p. 79), presents a "succinct tableau" of the families of *Araneæ*, including those which he had to establish for extra-European Spiders. He withdraws two of his former suborders, the *Gnaphosæ* and *Oculatæ* (Les Arachnides de France, Vol. I, p. 14), leaving only the *Theraphosæ* and the *Araneæ veræ*. These latter denominations Simon prefers in place of *Tetrapneumones* and *Dipneumones*, as these names indicate some characters which are subjected to some exceptions, e. g., *Hypochilidæ*, which he places amongst the *Araneæ veræ*. The author divides the hitherto described spiders into thirty-nine families, of which eighteen are established upon exotic genera.