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U. S. DEPARTMENT OF AGRICULTURE,  
DIVISION OF ENTOMOLOGY.

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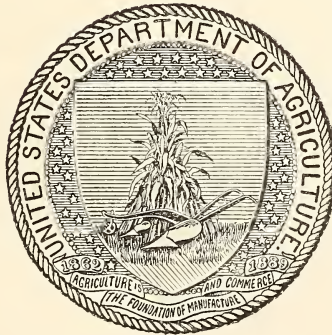
PROCEEDINGS

OF THE

TWELFTH ANNUAL MEETING

OF THE

ASSOCIATION OF ECONOMIC ENTOMOLOGISTS.



22

WASHINGTON:  
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1900.

## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
DIVISION OF ENTOMOLOGY,  
*Washington, D. C., September 7, 1900.*

SIR: I have the honor to transmit herewith the manuscript of the proceedings of the twelfth annual meeting of the Association of Economic Entomologists, which was held at New York City June 22 and 23, 1900. From the fact that the papers presented at the meetings of this Association are always of the greatest economic importance, the Department has hitherto published the secretary's reports as bulletins of this Division. I therefore recommend the publication of the present report as Bulletin No. 26, new series.

Respectfully,

L. O. HOWARD,  
*Entomologist.*

HON. JAMES WILSON,  
*Secretary of Agriculture.*

succeed in perpetuating the species and nothing has been found since of the Louisiana material. A year later Mr. C. P. Lounsbury, government entomologist of Cape Colony, found this species parasitic upon *Lecanium oleæ*, the common black scale, in Cape Colony, and sent specimens to the writer for identification. The past spring, Mr. Lounsbury, at the writer's request, made formally through the United States Secretary of Agriculture to the Secretary of Agriculture of Cape Colony, brought with him from Cape Town to New York two boxes of twigs covered with the black scale affected with this parasite, and expressed them to Washington, whence they were immediately forwarded to Mr. E. M. Ehrhorn, the horticultural inspector of Santa Clara County, Cal. On June 19 the writer received a letter from Mr. Ehrhorn announcing the arrival in living and healthy condition of the parasites in question. The twigs in one box were somewhat moldy but quite a number of parasites were crawling about in the box and were found in the pupal condition in some of the scales. Mr. Ehrhorn had been warned by telegraph and had prepared twenty-five infested oleander plants by potting them and had covered each with a tight bag of the finest Swiss muslin. In these most of the parasites were liberated and a few were allowed to fly in the orchard. Specimens of a hyperparasite (*Tetrastichus* sp.) also survived the journey, but Mr. Ehrhorn was on the lookout for this parasite and isolated them as they appeared, pending instructions from Washington as to their destruction. The writer had strong hope of the successful establishment of this species at San Jose, the climate being appropriate and the supply of food unlimited, and stated further that this was another instance of international entomological work which emphasized the fact that this Association through this class of work binds together its members all over the world more than any other association.

### BENEFICIAL WORK OF HYPERASPIS SIGNATA.

By L. O. HOWARD.

[Abstract.]

In a third note presented by Mr. Howard he stated that at the meeting of this association held in 1898 he had the pleasure of calling attention of the members to the rehabilitation of *Pulvinaria acericola* Walsh and Riley, a *Pulvinaria* which occurs upon the leaves of maple. The full life history of this species and also of that of *Pulvinaria innumerabilis* were displayed in Bulletin 22, n. s., of the Division of Entomology, U. S. Department of Agriculture. Under the head of natural enemies of both species the little ladybird beetle, *Hyperaspis signata*, was especially mentioned and the statement was made that it was received in the larval state from Knoxville, Tenn., feeding upon

the scale. On June 18 of the present year an additional lot of specimens upon maple leaves was received from Prof. Hunter Nicholson, of Knoxville, Tenn., and with them numbers of the larvæ of the *Hyperaspis* feeding energetically upon the eggs of the scale insect. Drawings were made of this very peculiar and characteristic larva which are reproduced herewith. The striking likeness of the larvæ of the *Hyperaspis* to a mealy bug will at once be noticed. Were it feeding upon mealy bugs instead of upon *Pulvinarias* (and it frequently does feed upon mealy bugs) it would at once be evident that

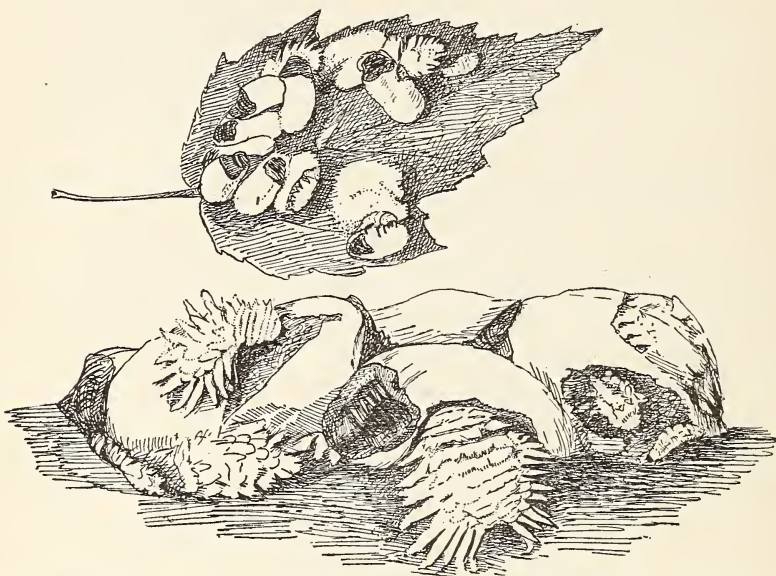


FIG. 1.—*Hyperaspis signata*: Larvæ feeding upon *Pulvinaria* on leaf of maple above, natural size; below, enlarged (original).

we have here a clear case of what Professor Poulton calls “aggressive mimicry.”

Mr. Gillette expressed the wish that the Association might have more talks like Dr. Howard’s, and asked if there were any questions or suggestions.

Mr. Howard said he would be glad to hear from Mr. Lounsbury on the subject of the parasite of the black scale. He said he wished to add that Mr. Lounsbury had sent two boxes—one a deep box and one a shallow box. The shallow box carried the more successfully. The scales had begun to rot in the deep box.

Mr. Lounsbury replied that he was more in quest of information than anxious to give it, and would like to know if anything had been done about the secondary parasites.