XANTHONIA VILLOSULA MELSH. INJURING FOREST TREES

(Coleoptera, Chrysomelidæ)

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During the summer of 1918 a number of different forest trees about Ithaca were injured by small brown leaf beetles. They were determined as *Xanthonia villosula* Melsh. by Mr. Charles W. Leng. The writer first noticed them feeding on the leaves of *Cratægus* on June 27, the leaves on a few small trees being almost completely riddled by them. A few days later they were seen feeding on other trees in a woodlot near Cornell University and soon they were found to be quite generally distributed in wooded areas about Ithaca. Small trees with foliage near the ground were often found to be nearly defoliated and occasionally a large tree had most of its leaves perforated with their feeding holes.

This insect was described by Dr. F. E. Melsheimer in 1847. It was reported by Mr. J. Stauffer of Lancaster, Pa., as "committing heavy depredations" on grape-vines in July, 1865. The injury was probably only local since there seems to be no other account of it. The beetles have been taken by collectors and recorded in systematic papers quite often, but its life-history and habits seem to be unknown. Dr. J. B. Smith stated that it is common in New Jersey on oak and hazel. Mr. Chittenden found it on leaves of hickory. Mr. W. S. Blatchley says it was beaten from hazel and oak in Indiana.

The hornbeam (*Carpinus caroliniana* Walt.) and the ironwood trees (*Ostrya virginiana* Willd.) seemed to be most frequently attacked last summer, but the writer found it also feeding on the leaves of *Cratægus punctata*, shag-bark hickory (*Carya ovata*), hard maple (*Acer saccharum*), linden (*Tilia americana*), white oak (*Quercus alba*), wild grape (*Vitis riparia*), wild blackberry (*Rubus* sp.), witch hazel (*Hamamelis virginiana*), wild rose, *Waldstenia fragarioides*, and wild strawberry (*Fragaria virginiana*).

The adults were found feeding on the leaves from June 27 until August 2 at Ithaca. Their feeding habit is quite characteristic. They cut a chain of small holes close together on the leaf, leaving only a thin cross bar of leaf tissue between the holes. The hole which forms each link in the chain is seldom more than one millimeter in diameter. The beetles drop quickly to the ground when disturbed and are readily beaten down into a net. They vary in color from brown to black, some being entirely brown, some black and a few are part brown and part black. The writer has found brown ones and black ones mating

together and two of the same color mating. These two color forms have been known as separate varieties, *stevensi* Baly and *plagiatus* Melsh. They mated and deposited eggs during the last half of July.

The eggs were laid in moist earth just below the surface of the ground. One mass was found to contain nineteen eggs glued together with a viscous covering. The egg is elliptical in form, is 0.65 mm. long and 0.3 mm. broad at the middle. It is smooth and a glistening white in color.

The larvæ have not yet been found but probably live in the ground and feed upon the roots of plants.

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NAPHTHALENE VS. CHICKEN LICE¹

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In connection with the work of testing proprietary insecticides and their ingredients, which is carried on at the Insecticide Board's Testing Laboratory located at Vienna, Va., a considerable amount of data has been obtained on the value of naphthalene as a chicken lice remedy. These experiments have been summarized, and since much of this data is new they are presented here in the hope that they may be of value to economic entomologists who are interested in this line of work.

Naphthalene is a very common ingredient in proprietary lice powders, occurring in those tested in quantities ranging from .17 per cent to 67 per cent. It is also found on the market moulded into the form of nest eggs which may be pure naphthalene or naphthalene mixed with paraffin, clay, plaster, etc.

The hens used in these tests were of no particular breed or age, and were all moderately to badly infested with chicken lice of several species. The common body louse, *Menopon biseriatum* Paiget, was the most abundant, but *M. pallidum* Nit., *Lipeurus heterographus* Nit., and *Goniocotes abdominalis* Paig., were often present.

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