
PETROVA HOUSERI, A NEW PITCH-NODULE MOTH FROM
EASTERN NORTH AMERICA

WILLIAM E. MILLER†

Ohio Agricultural Experiment Station, Wooster

During a general study of pine-feeding Lepidoptera in Ohio, I discovered a species of *Petrova* which is apparently new to science. This species is here described as *P. houseri* in honor of Professor John Samuel Houser, late chief of the Entomology Department at the Ohio Agricultural Experiment Station, who for many years maintained an active interest in insects affecting shade and forest trees.

Petrova houseri, new species

Figures 1 to 5

Wingspread 14.5 mm.

Labial palpus white. Head dirty white except for dark gray scales around antennal bases, and a poorly defined bar of dark gray scales across front of head just above antennal bases. Collar and patagium with dark gray white-tipped scales.

Thorax clothed with dark gray scales, most being tipped with white. Legs gray with white bands. Abdomen dark gray above and beneath, dirty white along sides.

Forewing superficially exhibiting a rough checkerboard pattern of light and dark brown areas; the light areas composed chiefly of orange colored scales, and the dark areas chiefly of dark brown and blackish scales (as in the paratype in fig. 1). Scatterings of metallic gray scales present in outer $\frac{3}{4}$ of wing loosely arranged in 4 crossbands spaced at nearly equal intervals. Fringe of forewing composed of gray scales tipped with white. A line of dark brown and dark gray white-tipped scales overlapping base of fringe, producing the superficial effect of a thin white line and a thicker brown line running along fringe base. Hind wing brown with light gray fringe.

Comparison of the six paratypes with the holotype shows variation as follows: the bar across the head, as well as the dark scales around antennal bases, may be nearly absent. The metathoracic leg can be mostly dirty white, with white banding occurring on the tarsal segments only. An abundance of scattered white scales may lighten the superficial coloration of the forewings of some specimens. Also, the metallic element in some may be nearly absent.

†Now with the Forest Service, U. S. Department of Agriculture; Lower Peninsula Forest Research Center, Michigan State University, East Lansing, Michigan.

The species is described from the male holotype which has label data as follows: "Veto, Wash. Co., Ohio; VI.18.54; Ex *Pinus echinata*; W. E. Miller, Collr." Each paratype has "Ex *Pinus echinata*" and "W. E. Miller, Collr." labels, and other labels as follows: 3 males, 2 with labels "Veto, Wash. Co., Ohio, VI.17.54" and 1 with "Veto, Wash. Co., Ohio, Em.VI-56"; 3 females with labels "Wash. Co., Ohio, Em.VI-54"; "Wash. Co., Ohio, VI.24.53"; and "Veto, Wash. Co., Ohio, VI-1956."

The type locality is the southeast $\frac{1}{4}$ of Section 22 of Dunham Township (1 and $\frac{1}{2}$ miles south of the village of Veto), Washington County, southeastern Ohio.

The holotype is deposited in the U. S. National Museum (Cat. No. 64389). Two paratypes are deposited in the American Museum of Natural History, and 1 paratype each in the U. S. National Museum and the collections of the Ohio Agricultural Experiment Station, The Ohio State University, and Michigan State University.

Petrova houseri seems to be related closest to *P. metallica* (Busck) and *P. luculentana* (Heinrich). The two relatives occur in the West and are probably the same species (Heinrich, 1923), but they have never been formally synonymized. *P. houseri* differs from *P. metallica* and *P. luculentana* most importantly in the

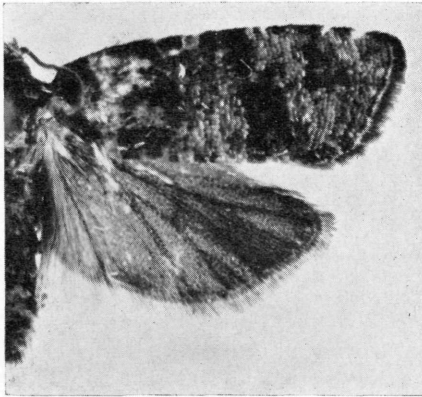


FIGURE 1. Adult female (paratype) of *Petrova houseri*.

shape of the male harpe (fig. 2, 3), a character which was constant for each species in all male genitalia seen (4 *P. houseri* males from Ohio; 4 *P. metallica* males from Montana; and 1 *P. luculentana* male (holotype) from Colorado). There are less striking differences between the female genitalia (ostia) of *P. houseri* and *P. metallica*—*P. luculentana* (4 *P. houseri* females from Ohio seen; 5 *P. metallica* females from British Columbia; and 2 *P. luculentana* females (paratypes) from Colorado). Figures 4 and 5 show the most important features of *P. houseri* female genitalia.

Petrova metallica and *P. luculentana* appear to vary in coloration much the same way that *P. houseri* does. In general, however, *P. houseri* has less of a metallic element and more of an orange element in its forewing than either of the other two. It is a smaller insect, the wing-spread of type series males averaging 13.4 mm, and of type series females, 15.2 mm, compared to 18.0 mm for the *P. metallica* males and 18.0 mm for the *P. metallica* and *P. luculentana* females seen.

Petrova houseri is the undescribed species of *Petrova* mentioned by Miller and Neiswander (1955, 1956) as being host specific on shortleaf pine, *Pinus echinata* Miller, and corresponding in distribution with the ranges of native pines in Ohio.

(Nomenclature of pines here follows Little, 1953). The insect is geographically isolated from its close relatives by the geographic isolation of *Pinus echinata* from *P. ponderosa* Lawson and *P. contorta* Douglas, hosts of *Petrova metallica* and *P. luculentana* (Heinrich, 1923). *Petrova houseri* is known thus far only from Ohio, but it undoubtedly occurs over a wider area. The larva feeds on current growth twigs on which it makes a blisterlike pitch nodule. The life cycle is univoltine and adults are present in June. Details of *P. houseri* biology will appear in another paper now in preparation.

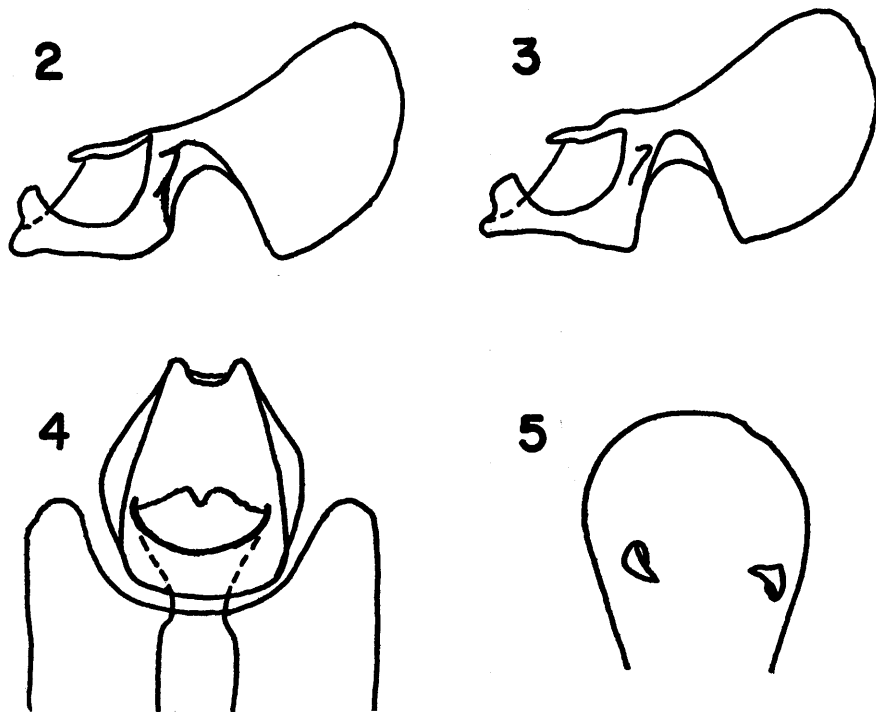


FIGURE 2. Harpe of *Petrova houseri*.

FIGURE 3. Harpe of *Petrova metallica* (Busck). The harpe of *P. luculentana* (Heinrich) is similar.

FIGURE 4. Ostium with certain associated structures of *P. houseri*.

FIGURE 5. Bursa copulatrix and double signum of *P. houseri*.

ACKNOWLEDGMENTS

The writer is indebted to Dr. J. F. Gates Clarke of the U. S. National Museum and to Dr. T. N. Freeman of the Canadian National Collection who arranged loans of *Petrova metallica* and *P. luculentana* material.

LITERATURE CITED

- Heinrich, C. 1923. Revision of the North American moths of the sub-family Eucosminae of the family Olethreutidae. U. S. Nat. Mus. Bull. 123: 1-298.
- Little, E. L. 1953. Check list of native and naturalized trees of the United States (including Alaska). (U. S.) Agric. Handbook 41: 1-472.
- Miller, W. E. and R. B. Neiswander. 1955. The biology and control of the European pine shoot moth. Ohio Agric. Exper. Sta. Res. Bull. 760: 1-31.
- and ———. 1956. The pitch twig moth, and its occurrence in Ohio. Ohio Agric. Exper. Sta. Res. Bull. 779: 1-24.