

## SOME EGGS OF MOTHS FROM SEVERAL FAMILIES OF MICROLEPIDOPTERA<sup>1</sup>

ALVAH PETERSON

Ohio Historical Society Museum, Columbus, Ohio

To date the author has published in *The Florida Entomologist* two papers that describe, discuss, and illustrate the eggs of several moths from four families of the Microlepidoptera, namely the Pyralidae and Phycitidae (1963), and the Olethreutidae and Tortricidae (1965).

This publication describes, discusses, and illustrates the eggs of one to several species of moths from 11 families of the Microlepidoptera, namely the Limacodidae (1-6), Megalopygidae (7-8), Zygaenidae (9-10), Pterophoridae (11), Phaloniidae (12), Gelechiidae (13), Plutellidae (14), Hyponomeutidae (15-16), Cossidae (17-18), Aegeriidae (19-20), and Stenomidae (21-24).

The Limacodidae (1-6), Hyponomeutidae (15-16), and Stenomidae (21-24), are represented by photographs of two to six species, all of the other families by one species. Gravid females among some of these families rarely or never come to artificial lights or baits. To obtain eggs from these requires much field work and rearing.

When unknown eggs are found in the field and elsewhere they are held for hatching and rearing to the adult stage. In some cases the species can be determined in the larval stage.

The techniques employed to produce eggs and record all the facts and photographs needed for each species in this publication are similar to those used and reported on in the eight or more papers by the author on eggs of Lepidoptera published in *The Florida Entomologist* from 1960 to 1966.

All eggs of the Limacodidae (1-6) seen to date resemble each other. They are distinctly translucent, oval in shape, decidedly flat, and may overlap when deposited in clusters. Each as a rule is firmly attached to the substrate and to each other when they overlap.

### SUMMARY

The foregoing presentation of species in given genera among several families of the Microlepidoptera show clearly that eggs of species in a given genus resemble each other closely. This similarity also appears to be present among some genera of the Limacodidae, see Fig. 1-6. It is highly probable that similarity among species in a given genus will also be true of those genera represented in this publication by one species.

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Fig. 1. *Phoebetron pithecium* (A. and S.), hag moth. This female limacodid deposited a few single and scattered ova on polyethylene. Each egg was large, distinctly flat, and oval. They are translucent, light yellow, and measure 2.0 x 1.2 mm. When located on green foliage the color of the leaf is visible through the egg. The chorion possesses irregular faint reticulations and a clear narrow band around the margin of the egg.

Fig. 2. *Euclea nanina* Dyar. This female limacodid deposited eggs freely in masses on polyethylene. Each mass contained 6 to 20 flat, overlapping and adhesive, disc-like ova. Each egg measured 1.6 x 1.0 mm. with a vertical diameter approximately 0.3 mm. They are translucent and slightly pointed at one end. The chorion possesses distinct irregular tiny reticulations readily visible near the outer margin in living eggs when magnified 15 X or more.

Fig. 3. *Limacodes biguttata* Pack. The female deposited several clusters of 6 to 10 overlapping, elongated, flat, oval eggs all firmly attached to polyethylene. Each egg measured 1.4 X 0.6 mm. with a very short vertical height. The eggs are translucent and almost colorless. The chorion is shiny and appears to possess numerous, rounded, tiny, internal globules variable in size.

Fig. 4. *Limacodes rectilinea* (G. and R.). The female deposited two or more irregular clusters of six or more elongated oval eggs on polyethylene. Each egg measured 1.0 x 0.5 mm. Most portions of the eggs are transparent and without pigmentation except the small centrally located opaque embryonic tissue. Except for size they resemble the eggs of *L. biguttata* Pack.

Fig. 5. *Lithocodes gracea* Dyar. This female limacodid deposited distinctly flat oval eggs singly or in small clusters on polyethylene. Each egg measured approximately 1.0 x 0.6 mm and was lightly attached to polyethylene, coming off readily when placed in Kahles - isopropyl egg preservative. The chorion is highly translucent, smooth, and shiny. Numerous round bodies occur within the egg creating the impression that the surface of the chorion is rough.

Fig. 6. *Tortricidia flexuosa* Grt. This female limacodid deposited a few eggs singly and scattered on polyethylene. They resemble closely the eggs of *Lithocodes gracea* Dyar without the presence of round fat-like bodies under the nearly transparent chorion.

Fig. 7-8. *Megalopyge opercularis* (J. E. Smith), puss caterpillar. This female megalopygid deposited yellow eggs freely in single layered masses on polyethylene or paper toweling. Each egg resembles a medicinal capsule with their sides parallel and ends rounded, measuring 1.2 x 0.6 x 0.6 mm. A mass contains 30 to 50 eggs with the eggs in rows and frequently parallel with each other. The mass may be partially or completely coated with numerous, loose, near white, wax-like threads. Fig. 7. Two eggs enlarged and heavily coated with wax-like threads. Fig. 8. A portion of a mass partially covered with wax-like threads.

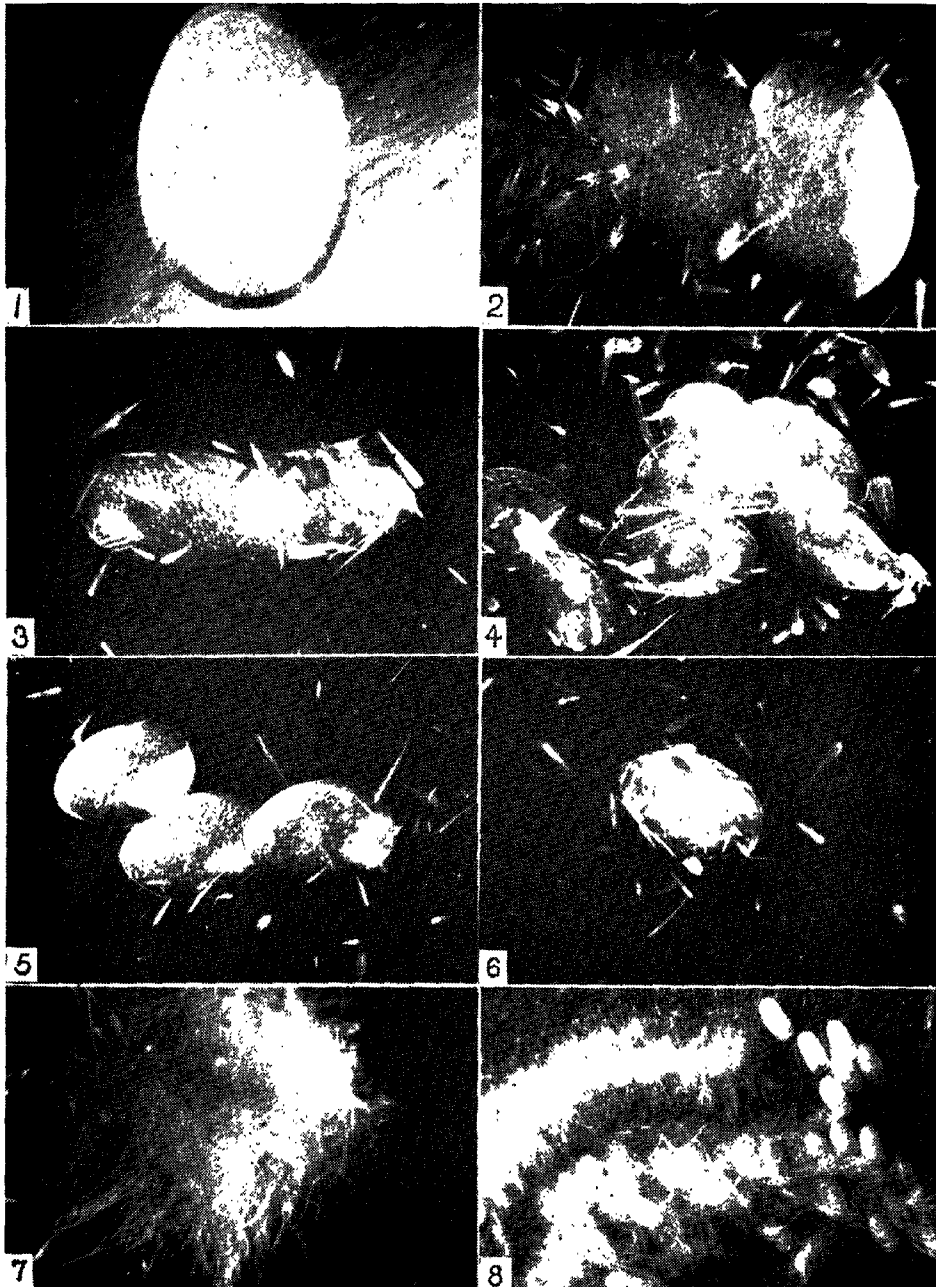


Fig. 9-10. *Harrisina americana* (Guer.), grape leaf skeletonizer. This zygænid female deposits its oblong creamish yellow ova in a loose cluster of 50 to 70 eggs on the lower surface of wild or cultivated grape foliage. Each egg measures 0.6 x 3.5 mm. The chorion is shiny and possesses numerous very fine reticulations, mostly hexagonal in shape. All eggs in a given cluster are distinctly separated and oriented to the same general direction. Fig. 9. One complete egg mass on wild grape foliage. Fig. 10. Several eggs in a mass magnified.

Fig. 11. *Oidaematophorus balanotes* (Meyr.). This pterophorid plume moth deposited its eggs singly or in small irregular clusters on plant foliage or polyethylene. Each egg is somewhat adhesive, smooth, nearly chalk white in color, and oblong with rounded ends and measures 0.55 x 0.25 mm. Eggs of *O. inconditus* Wlshrn closely resemble those of *O. balanotes* (Meyer) except they are shiny, light greenish white, and also very lightly attached to polyethylene.

Fig. 12. *Carolella sartana* (Hbn). This phaloniid moth deposited its adhesive eggs singly on oak foliage or polyethylene. Each egg is transparent to translucent, elongated with one end more rounded than the other, and measures 1.1 x 0.35 x 0.25 mm. The near white embryonic tissue is readily visible through the clear chorion. The shiny surface of the chorion possesses many transverse rows of irregular indentations.

Fig. 13. *Gelechia mediofuscella* Clem. This gelechiid moth deposited its eggs singly, scattered, and loosely attached on polyethylene. Each egg is near white, oval in shape, and measures 0.6 x 0.4 mm. Very faint and fine reticulations occur on or within the chorion on most eggs.

Fig. 14. *Plutella maculipennis* (Curtis), diamond back moth. This plutelid moth deposited its ova singly or in small clusters on polyethylene or foliage of several vegetable crops. The chorion is shiny, slightly yellowish, and possesses a somewhat rough and irregularly indented surface.

Fig. 15. *Atteva aurea* (Fitch), ailanthus webworm. This hyponomeutid moth in captivity deposited eggs on ailanthus foliage or polyethylene singly or in small clusters. They are oval in shape, distinctly flattened, and often somewhat pointed at one end. They measure 0.9 x 0.5 mm and are lightly yellowish white in color. The chorion is smooth and possesses tiny irregular reticulations.

Fig. 16. *Lactura pupula* Hbn. This hyponomeutid moth deposited its nearly circular, flat, overlapping ova in small clusters on polyethylene. Each egg measures 0.8 x 0.7 mm and has a distinct yellow color due to the yellow embryonic tissue visible through the transparent chorion. The surface of the chorion is rough due to the presence of numerous short depressed lines and irregular indentations.

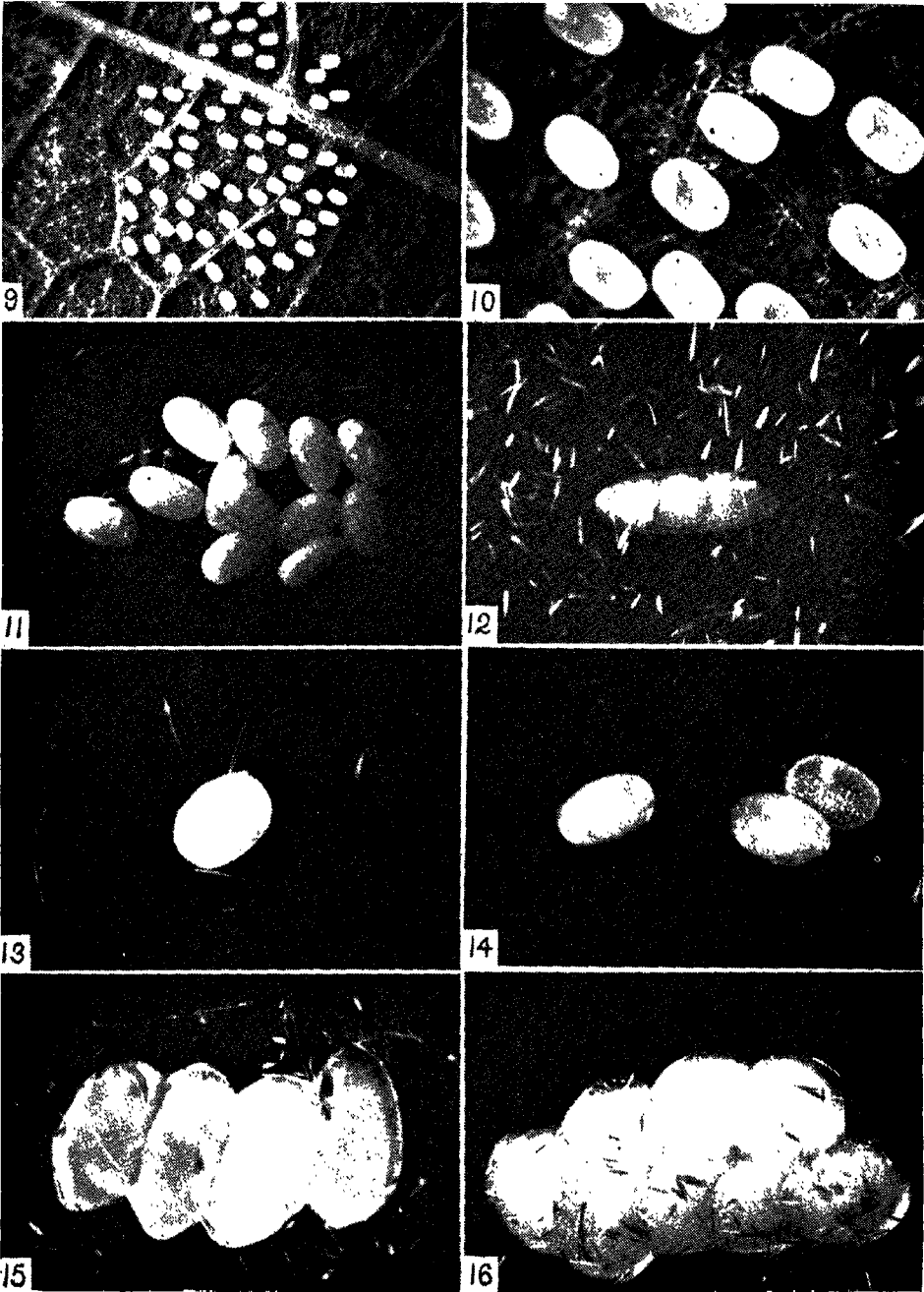


Fig. 17-18. *Prionoxytus robinae* (Peck.), carpenter worm. This cossid female in a polyethylene bag deposits its adhesive eggs singly or in irregular clusters on oak foliage, splinters of wood, or on the surface of the bag. Each egg measures approximately 2.3 x 1.5 mm and has the shape of a much used American football. Newly deposited eggs vary in color from a light cream to light brown. Eggs several days old become dark brown to near black. The surface of the chorion is covered with conspicuous irregular indentations. The ridges about the dark indentations are elevated and light in color. When eggs are in contact with each other or a substrate the adhesive coat is a near black irregular line. Fig. 17. A cluster of eggs four days old. Fig. 18. Two eggs enlarged showing the details of the chorion.

Fig. 19-20. *Sanninoidea exitiosa* (Say), peach tree borer. This aegeriid moth confined in a manilla paper bag deposited its eggs singly and occasionally in small clusters on the surface of the bag. Each egg measures 0.65 x 0.4 x 0.3 mm. They are flattened ellipsoidal bodies with one end broader than the other and the upper surface slightly depressed. The chorion is a soft chestnut to dark brown and is covered with faint reticulations usually most conspicuous near the blunt end. Fig. 19. Top view of a hatched egg.

Fig. 20. Three unhatched ova glued together and to a paper substrate. For more details see Peterson (1923).

Eggs from several species of *Stenomoma* (21-24) among the Stenomidae have been seen. In many respects they closely resemble each other. As a rule they are elongated, more or less pointed at both ends, and frequently overlap when deposited in small masses along the edge of a leaf. Each egg is light colored and the chorion bears numerous fine depressed lines and tiny indentations.

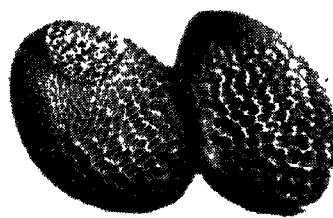
Fig. 21-22. *Stenomoma algidella* (Wlk.). This stenomid female deposited its elongated eggs singly on polyethylene or in overlapping clusters along the edge of an oak leaf. A single egg is spindle shaped with one end more pointed than the other and measures 1.4 x 0.6 x 0.4 mm. Its overall color is slightly yellow. The surface of the chorion is rough consisting of numerous, short transverse depressions, and irregular indentations and reticulations. Fig. 21 A single elongated egg. Fig. 22. Several eggs deposited along the edge of a leaf.

Fig. 23. *Stenomoma vestalis* (Zell.). This stenomid female deposited its eggs in overlapping clusters along the edge of polyethylene or a small leaf. It resembles closely the eggs of *S. algidella* (Wlk.) in size, shape and detailed structure of the chorion. Six to many eggs may occur in one elongated cluster.

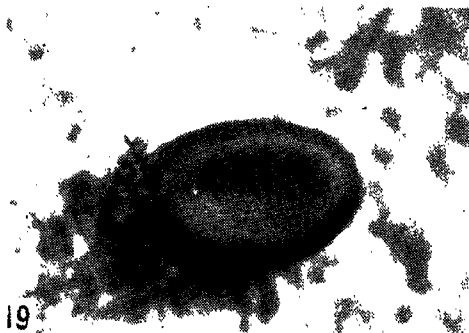
Fig. 24. *Stenomoma schlaegeri* Zell. This stenomid deposited its soft elongated eggs singly on polyethylene. They were lightly attached, consequently they were placed in a glass dish for a photograph. In making this transfer they became slightly irregular in shape. Each egg measures approximately 1.2 x 0.6 mm. They are near white. The chorion is somewhat translucent and irregular possessing many rounded depression and reticulations.



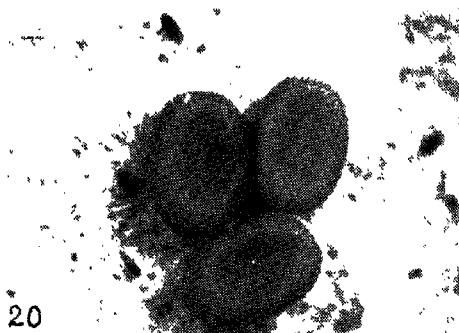
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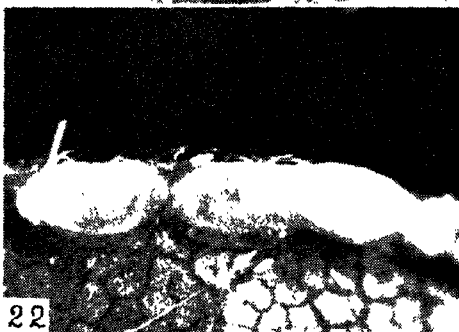
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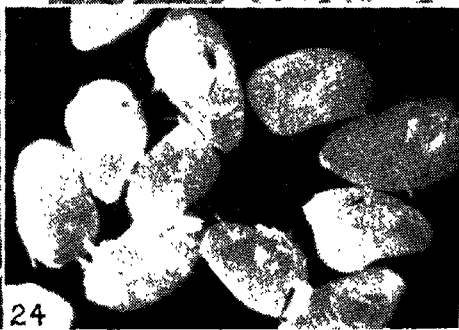
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