

## EARLY STAGES OF ARZAMA OBLIQUATA, G. AND R.

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EGG.—Fusiform, thick in the middle and tapering to a small rounded summit, marked by about sixteen longitudinal ribs, which are low, narrow, flat and crossed by a few fine ridges. Color yellow-brown. Duration about fifteen days.

YOUNG LARVA.—About .8 inch in length, cylindrical, slender; shape like the other Arzamas. Color pale green, with a few long hairs proceeding backwards. Duration eighteen to twenty days.

MATURE LARVA.—When fully grown the larvæ are  $1\frac{1}{2}$  inch in length, some as much as two inches long. They are very slender; head thick; color more gray; body smooth, with no hairs.

PUPA.—Length .75 inch; breadth across mesonotum .16 inch; across abdomen .16 inch; greatest depth .22 inches. Shape like the other Arzamas. Color dark brown. Duration sixteen days.

The eggs from which these observations were made were obtained on the 26th of October, 1886, by confining a dilapidated female caught flying about the food-plant—the Cat-tail reed. The female generally lays her eggs in the middle of the reed, between the long leaves. They began to hatch on the 10th of November, thus giving a period of about 15 days. They began to go into pupæ on the 20th April, 1887, making the whole larval period 161 days; adding to this the pupal period of 16 days, makes a total of 190 days from the egg to the imago.

The food-plant—the Cat-tail reed—grows in the meadows. As soon as the larva is hatched, it bores at once into the reed and feeds from the top downwards, continuing to feed throughout the winter, until the whole of the reed is eaten out; it then returns to the top, and forms its pupa there. The larva is very hard to rear, as it feeds during the winter, and the reed must be kept as wet as possible. I have succeeded by keeping the reeds in a pail of water.

The moth generally begins to fly between four and five o'clock in the afternoon, and ceases between seven and eight o'clock. Its flight is very slow. It is described and figured by Grote and Robinson, Trans. Am. Ent. Soc., vol. 1., page 339.