

cases extending back to posterior part of joint 5, leg and antennæ cases not so far. Duration of this period from 10 to 13 days.

For several years the larvæ of this species have been taken from the willows here, when nearly full grown, in September, and the moths obtained from them in the spring, but not till last spring (1884) did I succeed in taking the larvæ through all their stages. In 1883 eggs were obtained in large numbers, but they did not hatch, not for lack of being fertilized, because the larva developed inside the eggs to near the time for hatching, as could be seen through the shell. Two or three of them even came out, but in so weak a condition that they did not eat. I think they must have been affected by the disease that seemed to affect all Lepidopteral life that year.

These eggs were obtained May 11th, and the imagines were produced from July 7 to 13. There are two broods in a season, the larvæ feeding on willows (*Salix nigra*), the last brood hibernating in the pupa state. In feeding they fasten the leaves of the ends of a twig together and feed in this larvarium, usually several feeding together. They do not pupate in this, but in the breeding cage spin close cocoons of brown silk in the corners of the box.

As a species this stands close to *inclusa*. There are several points of difference that seem to be permanent. It is of smaller size, out of a large series of reared and captured specimens none of the females being as large as all my females of *inclusa*, the most of them smaller than the males of that species; the males being proportionally smaller than the males of *inclusa*. In color the females are lighter than the *inclusa* females, the oblique transverse shades more brown tinted and less orange tinted; the ante-apical orange that in *inclusa* is a distinct patch across four or five subcostal interspaces separated by the veins, is in *palla* a mere stain, in no examples a defined patch, and in some scarcely distinguishable. The males average darker than the males of *inclusa*, both fore and hind wings being more of a brown of the vandyke-brown order, rather than umber, being more the shade of the male of *indentata*. In this sex the ante-apical orange is more distinct than in the female, but in about nine examples out of ten is still a stain instead of a patch, occasionally one showing about two very small spots that are fairly outlined.

*Palla* seems to be the species distributed over this portion of the United States. I found larvæ in Nebraska in 1882 that produced this species, and have had a number of specimens sent me from Central