

none, and the subterminal, which has two on each side. On the thorax and head they are smaller and fewer in number. Length of body 1.25 m. m.

Apterous viviparous ♀. "Dull bluish black; tergum with the segments marked by strongly impressed lines and covered by white down in square checker-like spots. Length 0.16 in." (4 m.m.) Fitch.

The abdomen is covered by long shreds of down, while the thorax and head are simply covered with whitish dust. Antennæ 5-jointed by division of third (?) joint of larval antenna into *two*, while the second joint has apparently shortened.

Fresh specimens of winged ♀ cleaned in alcohol are described in MS. by Dr. Hagen as "head and antennæ black, prothorax pale dirty whitish; thorax chestnut brown; abdomen pale whitish gray, above with six rows of blackish spots; beneath with four blackish fine lines on each side near the middle, not reaching the tip; legs brown; tibiæ and tarsi paler; wings opaque, veins pale, except the mediana of fore wings, which is brown. Full grown nympha is similar to the imago; the wing coverings are black."

Alcoholic specimens of winged viviparous ♀ were dark bluish black with the white filaments on the abdomen less prominent than in the apterous ♀; head and thorax covered with whitish powder. The antennæ are 6-jointed by division of the third (?) larval joint into *three*, the second joint shortening; joints 3-6 are marked with transverse irregular interruptions lined with a thin membrane, while the terminal and subterminal joints contain sensitive glands, as do also these joints in the larva and apterous ♀. Length 4-5 m.m. Expanse 10-12 m.m.

The sensitive glands of the antennæ, which may be seen in the terminal and subterminal joints, are cavities or funnel-shaped openings in the crust, which are lined by a membrane which expands in the middle into a glandular body from which arise from two to four papillæ. In some cases within the border of the cavity can be seen minute ciliæ forming a fine fringe. These organs undergo but little modification during the metamorphoses of the insect. They are prominent in the embryo taken from the viviparous female. In the adult, however, they are partially obscured by other irregularities in the surface. In the winged individuals, where the antennæ are 6-jointed, the terminal joint has at tip five short papilla-like spines, and a little below these four slightly granular elevations, immediately beneath which is an interrupted space in the