

spiracles, also a normal position. But at this point of larval existence a rather striking point of so-called specialization occurs, and this happens with a few other species also, which, though a trifling matter apparently, serves to differentiate it at once and forever from its near ally, *marginidens*. At the close of the stage a faint trace of a corneous plate appears on joint seven, in the exact position where IV. is on the preceding ones.

With the cast of skin that brings the larvæ into the penultimate stage, it is found there is a large, well-developed tubercle here on abdominal joint seven in the same position and of similar outline to IV. on the preceding joints. It has not been that IV. has been raised to its corresponding position on the others, for it is still occupying its previous normal position lower down, and we have to do clearly with an acquired character, which we may designate as IVa. The larva attains to a length of about 34 mm. in this stage.

Mature larva: The colour now becomes a soiled translucence, without traces of the usual lines. While the head and shield have increased, the plates situated at the true tubercles or elsewhere do not show a corresponding enlargement. The plate IVa is as large as the true IV., though both are of slightly less size than IV. on the preceding joints. This feature has been constant in a large series of examples, and is the principal feature of a structural nature by which it may be differentiated from its ally. There exists a very perceptible difference in size, colour and general appearance in their immature stages, obvious enough to one familiar with these borers, but it seems sufficient to separate our species in this matter of the acquired plate alone, as by it we can distinguish the larvæ of such dissimilar species as *inquesita* and *necopina*, *nitela* and *limpida*. Considering the development of this additional plate IVa as pointing to a higher specialization, and that those species possessing it represent a more recent evolution from the earlier type, permits us to look with some degree of assurance for this older form in such widely diffused species as *immanis* of our fauna, and *micacea* of Europe, whose common parentage seems unquestioned, and whose larvæ, at least the latter, have the normal Noctuid arrangement on the seventh abdominal segment. Continuing in this line, we might expect in the ornamentation of the imago the more rigid, straighter transverse posterior line as a primitive marking and a tendency with our later, specialized species as having the orbicular, claviform and reniform white-marked and contrasting—a feature not common to the Noctuids as a whole. Stress has been