

The eggs need not be removed from the bark to enable the incubation period to be determined, for at eclosion the young larvae bore through the chorions directly into the bark, the egg cases, being packed with brown frass in the process, causing a marked colour change. The eggs, when laid, are invariably placed so that the developing embryo is facing the bark and the embryo, before eclosion, is bent in half within the chorion and therefore is approximately twice the length of the egg. The average incubation period is 34 days, with a range from 29–39 days when temperatures vary between 42° F. and 79° F.

LARVAL INSTARS. The morphology of the larva of *Nascioides enysi* has already been described (Dumbleton, 1932), though Figure 25 should be substituted for Figure 11 in his paper. Measurement of 700 larval head capsules, from 2 annual series of monthly collections, indicates the presence of 6 instars in the development of *Nascioides enysi* (Fig. 2). The average head capsule widths in millimetres for each instar are 0.20, 0.37, 0.63, 0.91, 1.28 and 1.63, showing that greatest growth occurs between instars 4 and 5, and 5 and 6. The periodic examination of larvae during rearing experiments in the laboratory, and the examination and measurement of the dimensions of larval tunnels in infested bark supports the evidence obtained from head capsule measurements.

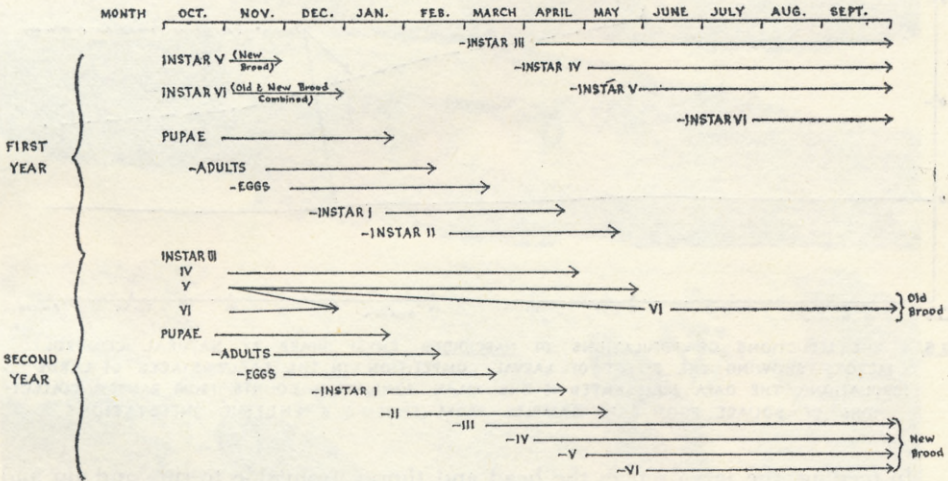


FIG. 4. THE LIFE CYCLE OF *NASCIOIDES ENYSI* SHARP ILLUSTRATING THE CARRYING OVER OF PART OF THE LARVAL POPULATION TO THE NEXT YEAR.

LARVAL HABITS. Following eclosion, the larva enters the bark and penetrates to the phloem, wherein it feeds until preparing to moult. The mine varies in size for each stage, as follows:

Instar	Mine Width (mm)	Mine length	Tree Tissues Damaged
I	0.3–0.5	35–80	Outer bark and phloem
II	0.9–1.2	40–60	Cambium and phloem
III	1.7–2.1	40–70	Outer sapwood/inner bark
IV	3.1–4.0	35–80	Outer sapwood/inner bark
V	6.0–7.0	40–80	Outer sapwood/inner bark
VI	7.0–12.0	50–100	Outer sapwood/inner bark