labial glands capable of a maximal secretory activity. This secretory condition persists until the time when acidophilic spinning material begins to form in the glandular portion simultaneously with the disintegration of the saccus portion of the labial gland. This is evident in the largest larvae of the tenth and eleventh nomadic days and in the smallest larvae on the twelfth nomadic day. The passage of the spinning material to the ducts of the gland occurs in the very last stages of larval development just prior to cocoon spinning and is evident in some of the largest larvae of the twelfth nomadic day. Some of these largest larvae are then already enclosed in cocoons, thus indicating their precocity in this and related aspects of development.

E. **Imaginal leg discs.**—Histological study of sectioned materials supports the conclusions from microscopic examinations and measurements of the external morphology of *burchelli* larvae as to the imaginal leg discs, concerning the time of their first appearance, relative size at different stages, pattern of development, and rate of growth. Judgments regarding development of the leg discs of the more mature larvae of the tenth, eleventh and last nomadic days were also verified by study of the internal morphology of these structures.

The leg discs first appear as paired thickenings of the hypodermis on the ventral surface of the thoracic segments (fig. 18). These structures are composed of several layers of actively dividing, basophilic-staining cells. In the course of development these discs become set off from the surrounding hypodermis by a peripodal cavity (fig. 7). As they grow, the leg discs undergo an antero-posterior extension as well as a transverse segmentation, with a corresponding enlargement of the peripodal cavity (figs. 22 and 24). The leg discs are in their most advanced state of development in the potential major worker larvae at the tenth nomadic day, in the intermediate larvae at the eleventh nomadic day, and in the smallest larvae at the last nomadic day. In this condition they are large, elongated, transversely segmented structures, generally submerged beneath the surface of the integument. Each of the three pairs of leg discs lies for the most part within one thoracic segment, but at maturity the posteriorly directed free ends of all the pairs usually extend into the next segment (fig. 24).

As the leg discs grow and become more posteriorly directed, there is a decrease in their visible surface area for they grow beneath the integument and the surface integument grows over the discs so that only a small portion of each leg disc projects above the integument. These projecting structures have been studied in detail by G. C. WHEELER (1938) who termed them 'leg vestiges'. These occurrences in leg disc development account for the fact that first in the largest and then in the upper intermediate size groups after the tenth nomadic day, no values for external leg disc areas can be recorded (table I). From this we should also expect a resulting drop in the curve representing *burchelli* leg-disc growth in terms of external measurements in the last stages of larval development (fig. 5).

F. **Dorsal vessel.**—The dorsal vessel or heart of *burchelli* larvae is a single median tube which lies just under the dorsal integument and is