

spinning, in advance of the rest of the brood series. Conversely, the smallest larvae reach their fully mature state last. This statement is confirmed in some detail by evidence from the present study.

In *burchelli* the leg discs appear first in the largest larvae (last statary day), next in the intermediate larvae with roughly corresponding body size (third and seventh nomadic days), and lastly in the smallest members of the polymorphic series (eighth or tenth nomadic days). An inclusive period of about ten days is thus required for the onset of this growth change to occur in all larvae of the series. The further pattern of growth and development of *burchelli* leg discs, marked by changes such as the formation of a peripodal cavity and transverse segmentation, is similar to that previously described for other hymenoptera (PACKARD, 1897, and PRATT, 1897). Due to the fact that these structures become located beneath the surface of the integument as larval maturation approaches in *burchelli* broods, the externally visible and measurable areas of these structures then steadily diminish to a minimum.

Comparisons of larval development of *Eciton burchelli* here studied with that of *Eciton hamatum* (TAFURI, 1955) disclose only minor differences in the growth pattern of homologous structures such as the leg discs. The discs grow similarly in both species as to the increase in size, appearance of segmentation and overlapping of the posterior margins. However, one consistent difference is that in the larvae of *hamatum*, the leg discs do not grow beneath or submerge beneath the surface of the integument to any appreciable extent prior to larval maturation as they do in *burchelli*. In *hamatum* larvae increases in the size of these structures are thus externally perceptible up to the time of enclosure. The described species difference in the pattern of leg-disc growth may be related to still other differences which exist between the two species, such as variations in developmental stage among the larvae of any one cross-sectional sample. A comparative study of *E. burchelli* and *E. hamatum* in the growth rate and pattern of development of leg-disc structures will be presented in a further publication.

In the larvae of *Eciton burchelli*, the rate of growth of the leg discs is different from the overall growth rate, and is specific to this local structure. Growth of this type has been described as disharmonic or allometric growth (WIGGLESWORTH, 1950).

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FIG. 20-25. — Fig. 20. Longitudinal section through abdomen. S-larva, 10th N. D. Iron alum haemotoxylin. X 265. Fig. 21. Longitudinal section through glandular portion of labial gland in abdomen. L-larva, 8th N. D. Harris' haemotoxylin, eosin. X 265. Fig. 22. Longitudinal section through thorax showing part of submerged leg disc and disintegrating saccus portion of the labial gland. S-larva, 11th N. D. Harris' haemotoxylin, eosin. X 265. Fig. 23. Longitudinal section through thorax larval specimen showing cellular breakdown of saccus. Largest larva, 10th N. D. Harris' haemotoxylin, eosin. X 265. Fig. 24. Longitudinal section through thorax showing intact imaginal leg disc amid histolyzing tissues. L-larva, 12th N. D. Harris' haemotoxylin, eosin. X 55. Fig. 25. Longitudinal section through ovary of mature worker larva. L-larva, 10th N. D. Harris' haemotoxylin, eosin. X. 265