Analysis of measurements of the different parts of organisms, particularly of anthropods, comparing the relative growth of these parts to the whole, have been carried out by many investigators. In 1932, HUXLEY demonstrated that a mathematical relationship exists between the growth of a part of an organism and the growth of the whole organism. He expressed this relationship in the heterogony formula, $y = bx^k$. Later this formula was termed the allometry formula and was revised to $y = bx^a$ (HUXLEY, 1936) in which y equals the dimension of the part, x the dimension of the whole, and b and a are growth constants. HUXLEY showed that numerous measurements of the growth of crustacean parts, when compared to the whole, verified an allometric growth in these organisms represented by this formula. He was also able to establish the fact that polymorphism in the neuter individuals of social insects is comparable to the allometric growth of other arthropods and that his formula may be applied to both neuter social insects and arthropods in general. HUXLEY further postulated that apparent differences in structure, such as the size of the head and mandibles, among the various polymorphic forms of the social insects was a product of differential growth rate of the corresponding larval parts.

Because the present investigation utilized a synthetic population series from all-worker broods of *Eciton burchelli* in the larval period of development, the reliability of these results must be evaluated in terms of possible inter-colony differences. Possible differences effecting the growth situation, sampling techniques and relative food supplies are considered to be of major concern.

Obtaining reliable brood samples from Eciton colonies is difficult under the best conditions in the natural situation, in which numerous complex factors such as a gradient-wise brood distribution in the bivouac (SCHNEIRLA, BROWN and BROWN, 1954) are inevitably involved. From a general comparison of the species it seems probable that such factors impede sample reliability somewhat more extensively in the case of *E. burchelli* than in *E. hamatum*. It is therefore important to this discussion to emphasize TAFURI's (1951) findings, confirmed in this study, from studies confined to samples from a single brood series of *hamatum* which show that the relationship of overall growth to that of the local structure is expressible for that species in terms of the HUXLEY allometry formula.

By analogy, the same conditions may hold in general for *burchelli*, although with secondary differences to be expected in view of species differences such as colony and brood size, the detailed pattern of the brood microclimate in the bivouac and the like. Our present application of the allometry formula to *burchelli* may be considered too severe a test, particularly in view of the fact that the necessary use of a 'synthetic brood series', assembled from different colonies, must have magnified greatly the normal intercolony differences affecting the reliability of brood samples. For this reason it is probable that the quantitative results concerning the relationship between body length and leg-disc size were somewhat too