

Such a feeding method allows the use of fine suspended organic matter in the turbid surf zone. The organic matter carried into the burrow by respiratory currents slowly settles on the floor of the burrow.

BREEDING ACTIVITY, AGE, SETTLEMENT AND GROWTH

To study the population structure of *Callinassa filholi* it was necessary to have a reasonably non-biased sample of the population. The best method for collecting the animals was by using a suction pump described by Hailstone and Stephenson (1961) which they used for collecting *Callinassa australiensis*. It worked very well in a sandy environment, withdrawing the animals completely from their burrows and in most cases more than one animal was obtained. Under good conditions it was about 70-80% effective.

1. SEX RATIO

Throughout the year, the percentage of females in a population averaged 61.3% giving a male to female ratio of 1:2. When only the smallest animals of a population were considered the ratio of male to female was nearer unity. A greater number of females in a population has also been observed for *Metapenaeus marstersi* by Dall (1958) and *Callinassa australiensis* by Hailstone and Stephenson (1961).

2. MEASUREMENTS RELATED TO GROWTH

Animals were collected at low tide, anaesthetised with chlorobutol and fixed in neutral formalin during which contraction occurred. The animals were measured with calipers to the nearest mm. There was little if any difference found in the proportion of the carapace length to the total body length. Only body lengths were therefore considered in later measurements.

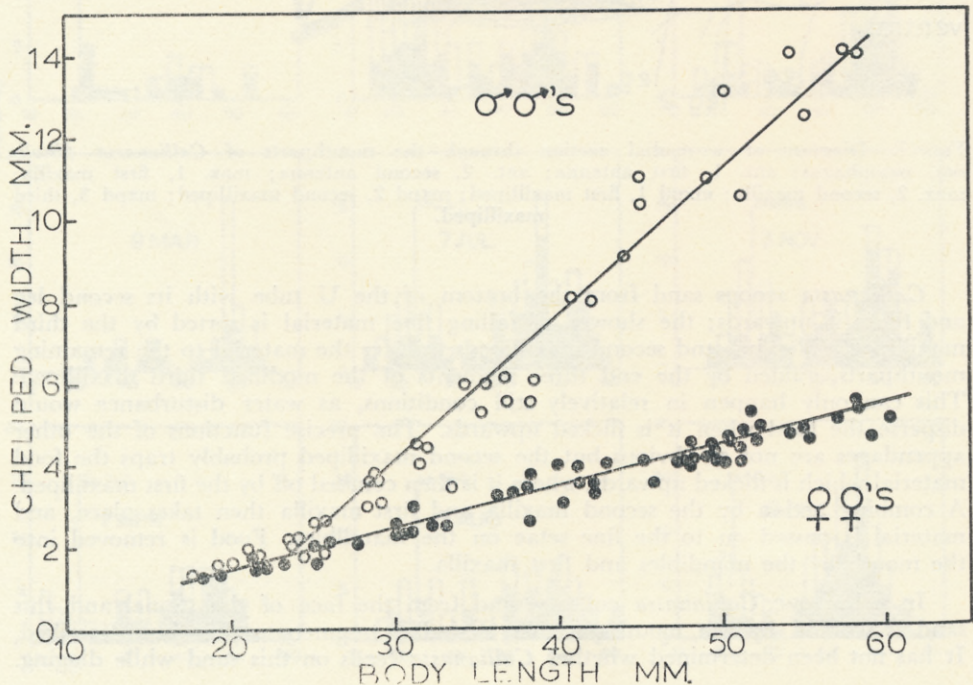


FIG. 8.—Graph of the widths of chelipeds plotted against body length of *Callinassa filholi* to show increase of size of the cheliped in the males during growth.