

TABLE I.—Number of females out of 10 sampled, each over 1.7mm long, carrying eggs or larvae. December sample lost. Recorded inshore surface sea temperatures ranged from 8.4° to 15.0°C, at Little Papanui, Otago Peninsula.

Jan. 7	Feb. 8	Mar. 9	Ap. 7	May 8	Jn. 8	Jy. 6	Aug. 8	Sep. 7	Oct. 6	Nov. 7
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Since a female acquires her first male well before she reaches egg-producing size, the cyprid developing into the first male presumably comes from another, older female. We have not discovered what determines sex in *C. melampygos*. No obvious differences that might be correlated with sex were noticed in the larvae. Staining of chromosomes by one of us (J. T. Tomlinson) showed them to be so minute that they could not be counted with confidence; so that the presence or absence of a sex chromosome has not been determined.

A mean of 14 eggs per egg-carrying female, 14 nauplii per nauplius-carrying female, and 13 cyprids per cyprid-carrying female was observed. These figures are based on 35 females with eggs, 41 with larvae. Times of developmental stages have not been followed. The maximum number of eggs in one female was 44 (female 2.6mm long), of nauplii, 33 (female 2.5mm), and of cyprids 31 (in a female of 2.7mm). Most of the breeding females were 1.9, 2.0 or 2.1mm long, relatively few exceeding this size. The largest specimen measured was 2.9mm in length. Measurements were based on anaesthetised, formalin-preserved specimens removed from decalcified *Perna* shells from Little Papanui, Otago.

Of 134 females over 1.2mm long, only 3 apparently lacked dwarf males. As males can readily be dislodged in removing a female from even a decalcified pit, it seems that almost all, if not all, larger females carry dwarf males.

THE FEMALE

The Mantle (Fig. 7) is a very pale reddish-yellow colour, except for a reddish-purple band just below the mantle aperture. This pigment is usually present on the labrum internally as well. A little pigment may be seen on the cirri or on the last segment of the body, as reported by Berndt (1907). The pigment may be intensified by dehydrating and then clearing in xylene.

The lips of the aperture superficially appear smooth, unlike those of other species of the genus. On closer examination, however, a row of about 20 small single teeth or spines, interspersed with more numerous bristles, can be seen to line the edge (Fig. 1). The comb collar typical of the order is present, and may serve to clean the cirri and close the aperture. It is a fine membrane with a comb-like distal edge, and projects inwards from the inner aspect of each lip. At the end of the aperture, whence the cirri protrude, the comb collar doubles back, forming an additional velum below the lips.

The mantle is lightly cemented to the burrow, but several layers of exuviae can accumulate in the cemented area. Several males occur in the upper, apertural portion of the attachment disc. The accumulation of exuviae where the barnacle is cemented to the burrow results in a horny knob in many species, but in this species a knob is not prominent.

Internal bars are present on each side of the mantle, and are symmetrical in details, as heavily chitinized rods extending from the lips to the middle of the mantle, and ending in curved supports each surrounded by an array of teeth. There are about 10 teeth on each flank, those on the inner end being markedly larger. The single inner portion of the stiffening bar near the proximal end of the mantle aperture is similar to that of *C. minutus*. It is hollow, and serves as a muscle attachment for several sets of heavy muscles.