

TABLE II.—Comparison of some Brachiopod Egg Sizes.

Species	Size	Reference
<i>Crania anomola</i> *	max. $96 \times 120\mu\text{m}$	Senn (1934)
<i>Terebratulina septentrionalis</i>	$144 \times 160\mu\text{m}$	Conklin (1902)
<i>Notosaria (Tegulorhyncia) nigricans</i> **	$160\mu\text{m}$	Percival (1960)
<i>Waltonia (Terebratella) inconspicua</i>	$180\mu\text{m}$	Percival (1944)
<i>Pumilus antiquatus</i>	max. $225\mu\text{m}$	

*Largest eggs of seven brachiopods quoted.

**Newly fertilised.

Considering the small size of *Pumilus antiquatus* the ova are very large when compared with other brachiopods (Table II). Atkins (1958) found ova $130 \times 150\mu\text{m}$ in fully developed gonads of *Pumilus* of shell length 2.8 and 2.9mm, in the month of June. Using living material and eggs removed from the gonad, I recorded maximum egg diameters of $210\mu\text{m}$ in July, of $220\mu\text{m}$ in August and of $225\mu\text{m}$ in September; eggs remaining in post spawning gonads were 20 to $80\mu\text{m}$. As the gonad matures the egg size variation diminishes and the eggs become more compressed. The ova of July to October have a distinct separation by size groups, those which are maturing for the present year and those which are still very small and will form the following year's spat. Such a distinction cannot readily be seen during February.

Counts of maturing eggs of 27 specimens of *Pumilus* are recorded in Table I.

When the ovum is situated in the mantle it is surrounded by a layer of follicle cells which disappear after fertilisation. The nucleus is situated roughly centrally within the ovum and has a diameter of approximately one-third that of the basically spherical ovum. The nucleolus is clearly seen in stained sections. The ova and sperm become more and more closely packed as the breeding season is approached, and prior to release the ova average $200\mu\text{m}$ in diameter.

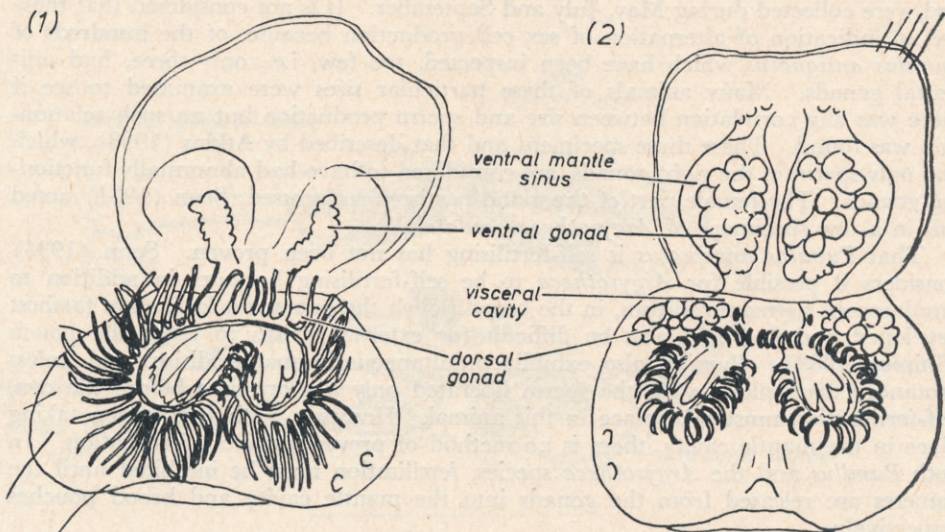


FIG. 5.—(1) *Pumilus antiquatus* shell length 4.7mm, collected January, 1965. The gonads are small and immature. (2) *Pumilus antiquatus* shell length 4.2mm, collected August, 1965. The gonads are mature, containing ova and sperm and extend into the sinuses both antero-posteriorly and laterally.