

Sunray Venus Clam *Macrocallista nimbosa*

Reproductive Development: A PICTORIAL GUIDE



- Images on the left hand side of the following pages are of the whole clam with one valve (shell) removed
- Images in the middle of the following pages are a cross section of the clam containing the gonadal area
- Images on the right hand side of the following pages are wet mounts of gonadal smears that have been placed on a slide and examined using a compound microscope at 200 x (females) and 400 x (males)

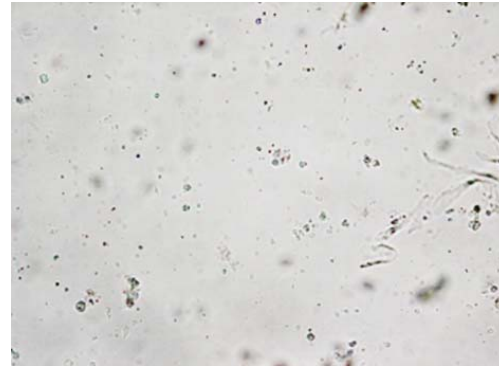
Susan Laramore, Harbor Branch Oceanographic Institute

Leslie Sturmer, University of Florida/IFAS Extension

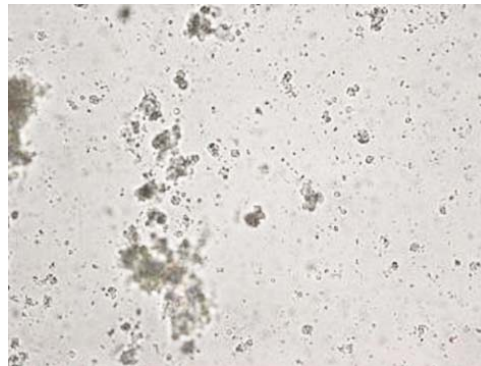
In fulfillment of a 2015-26 Florida aquaculture grant obtained from the
Florida Department of Agriculture and Consumer Services



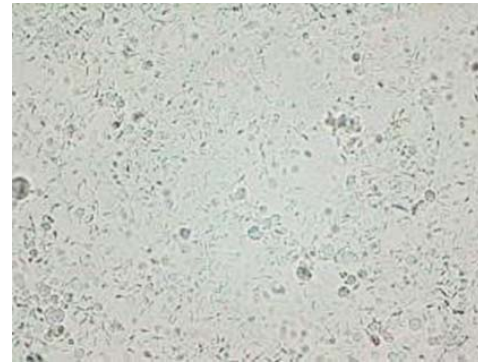
Early Development in Males



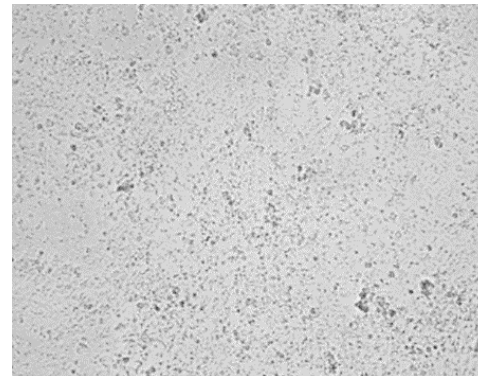
Gonad appears deflated in whole clam and gonadal cross section.
Sperm have not yet developed tails in wet mounts.



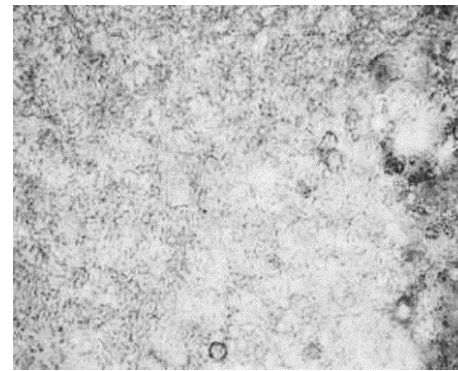
Late Development in Males



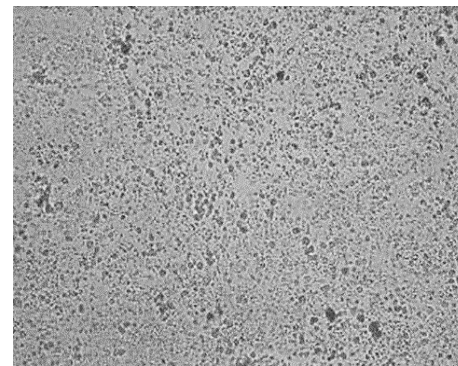
Increasing development is apparent in both whole clam and gonadal cross sections. Tails are beginning to develop in wet mounts.



Ripe Males

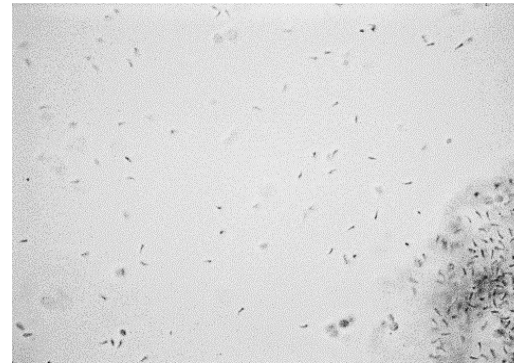


Gonad appears enlarged and is creamy in cross sections.
Dense populations of active sperm with tails are seen on wet mounts.

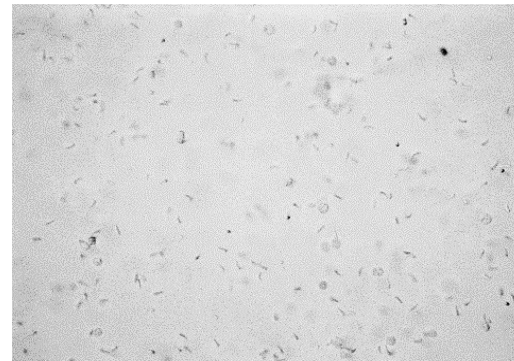


An entire male follicle is
apparent on this slide.

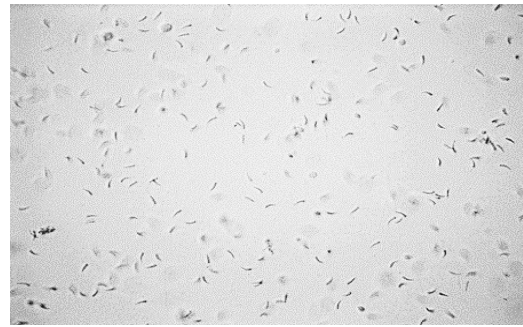
Males in Early Post Spawn



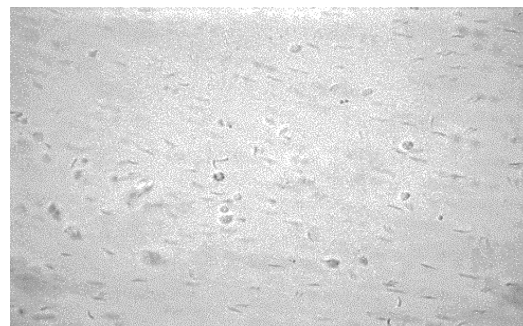
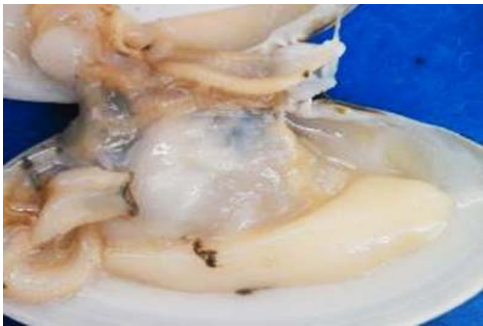
The gonadal area is still creamy but has begun to decrease in size.
Populations of sperm are less dense in wet mounts, but still active.



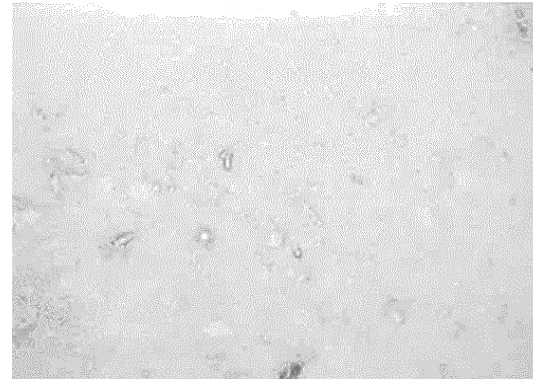
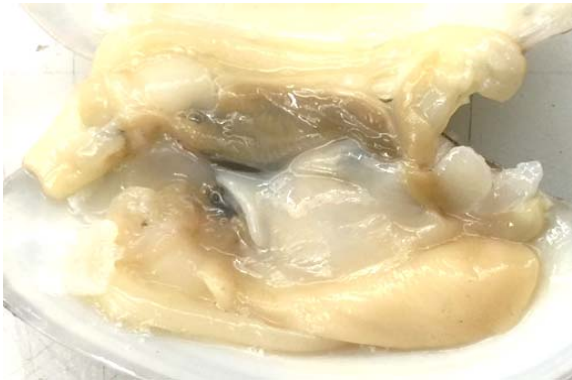
Males in Late Post Spawn



The gonadal area is significantly reduced and appears similar to that of early development stages. The number of mature sperm is significantly reduced in wet mounts.



Inactive State (Sex may not be determinable)

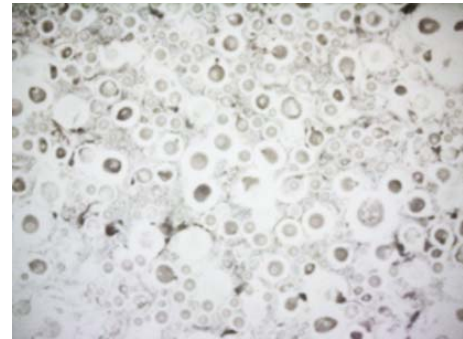
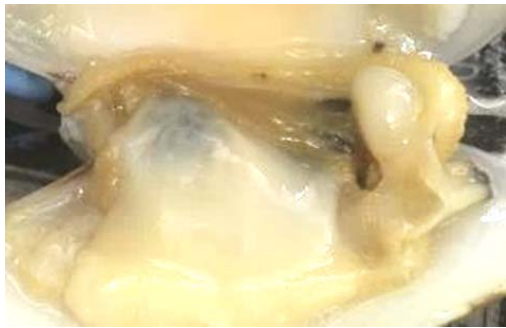


The gonadal region is reduced or not apparent.

On a wet mount a few residual sperm (top) or eggs (bottom) may be seen or sex may be indeterminable on a wet mount

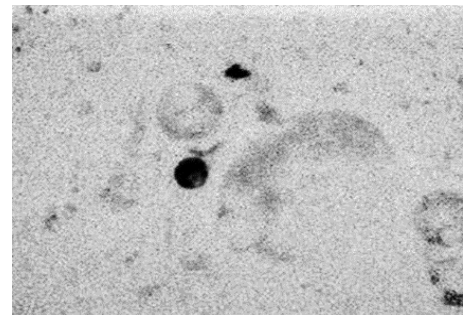


Early Development in Females

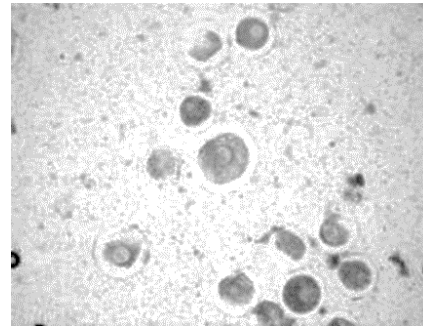


The gonadal area appears deflated in whole and cross sections.

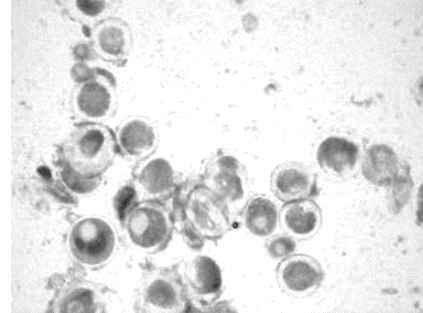
Eggs are typically in various stages of development, with smaller eggs representing those in early development.



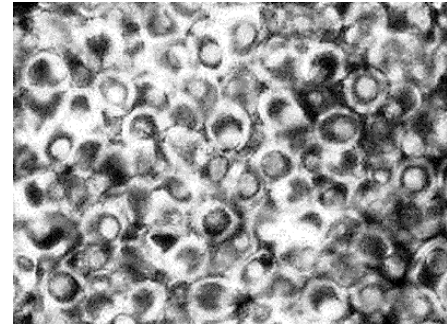
Late Development in Females



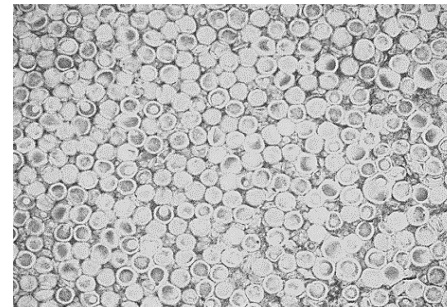
The gonadal area is more enlarged and creamy in appearance. Wet mounts show an increase in the size and number of eggs.



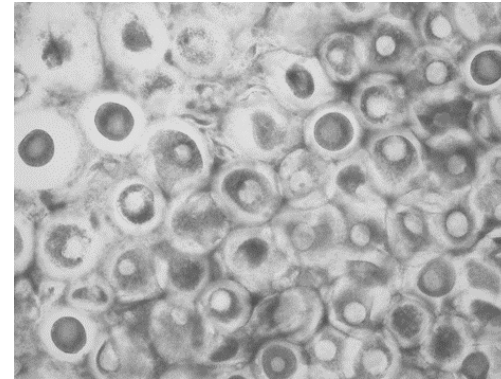
Ripe Females



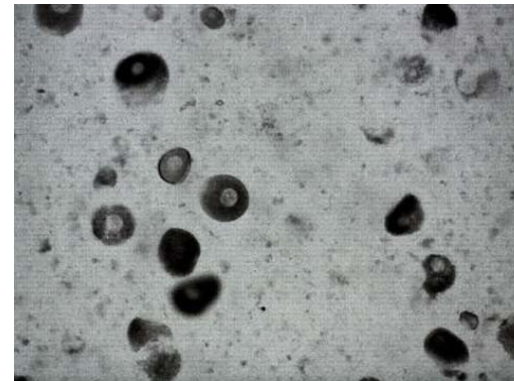
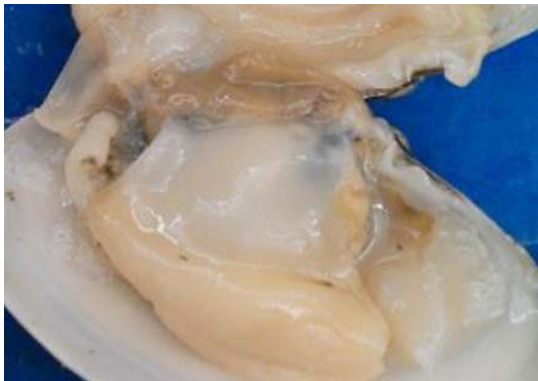
The gonad is enlarged and creamy in appearance.
Dense populations of eggs of similar, large size are apparent in wet mounts.



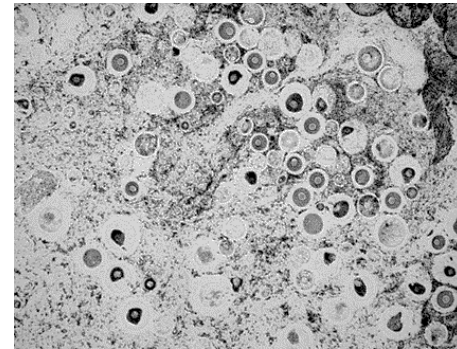
Females in Early Post Spawn



The gonadal region begins to decrease in size but is still creamy in appearance.
The population of eggs may remain dense (top) or decrease (bottom) and tissue breakdown becomes evident.



Females in Late Post Spawn



A reduction in the gonadal area is apparent.

In wet mounts the population of eggs has decreased and tissue reabsorption and breakdown is evident.

