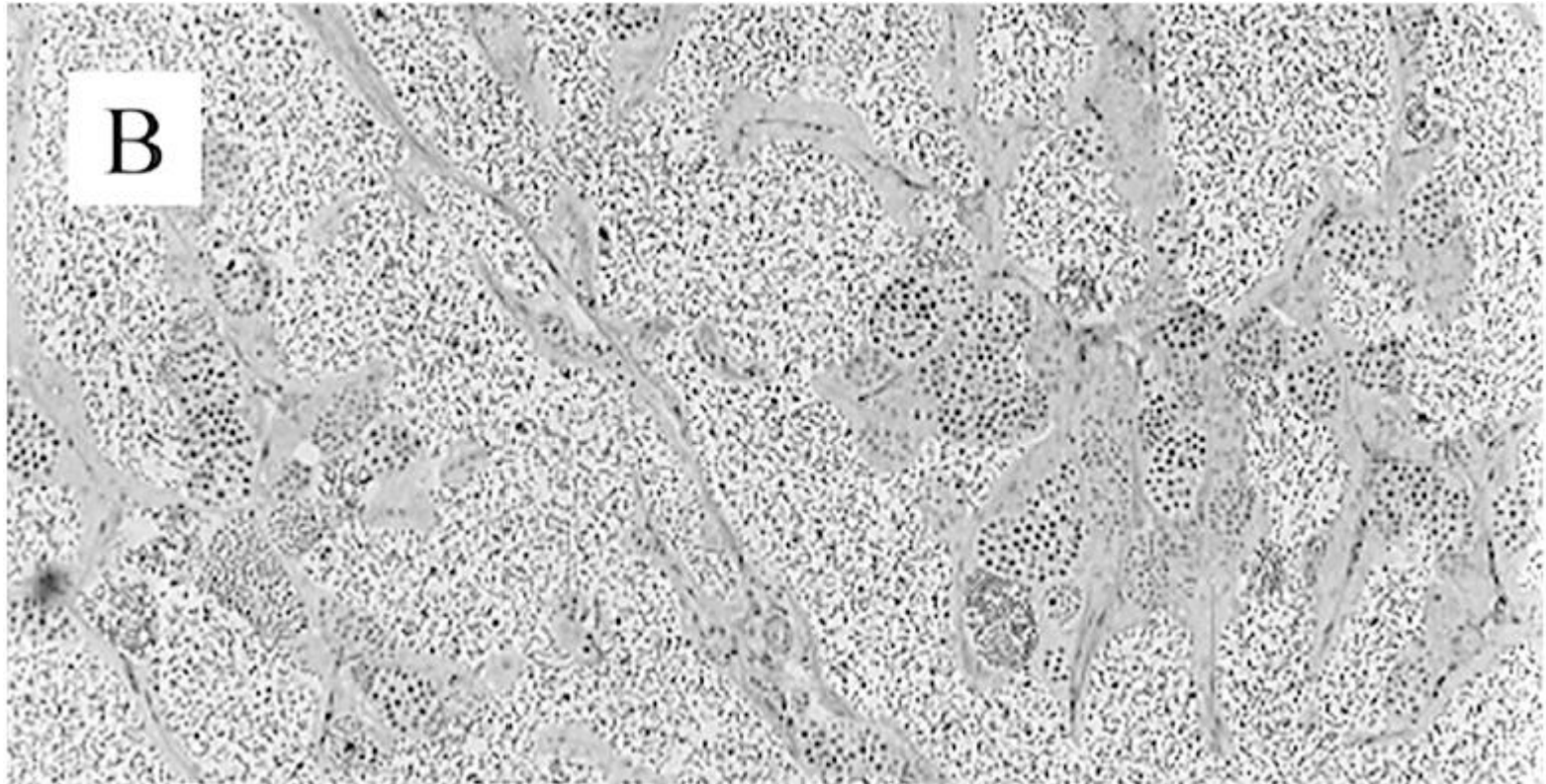


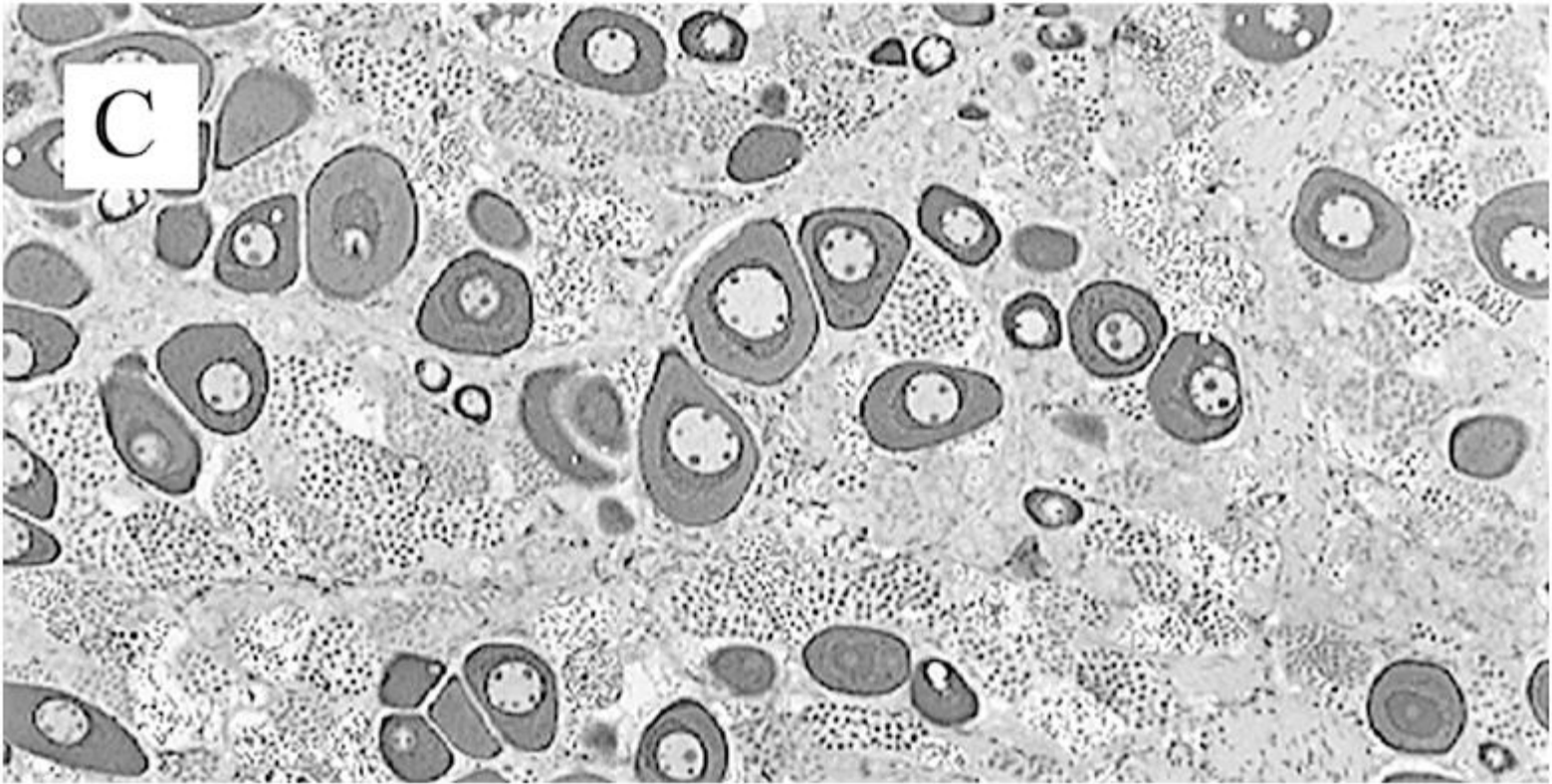
Biology and Behavior in fish



Male reproductive development



Quirks in reproductive assessment



Maternal effects

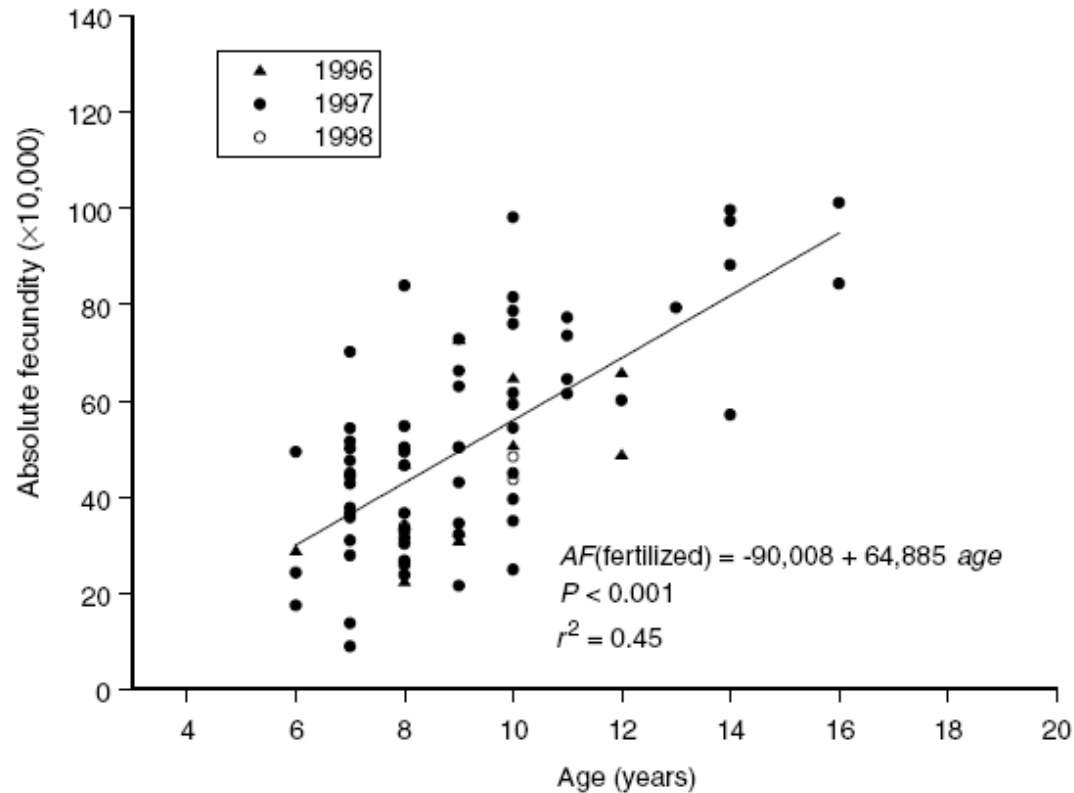


Figure 7

Scatter plot of black rockfish absolute fecundity (AF) (based on fertilized eggs) on age by year (1996–98) with a fitted regression line from pooled data.

Maternal effects

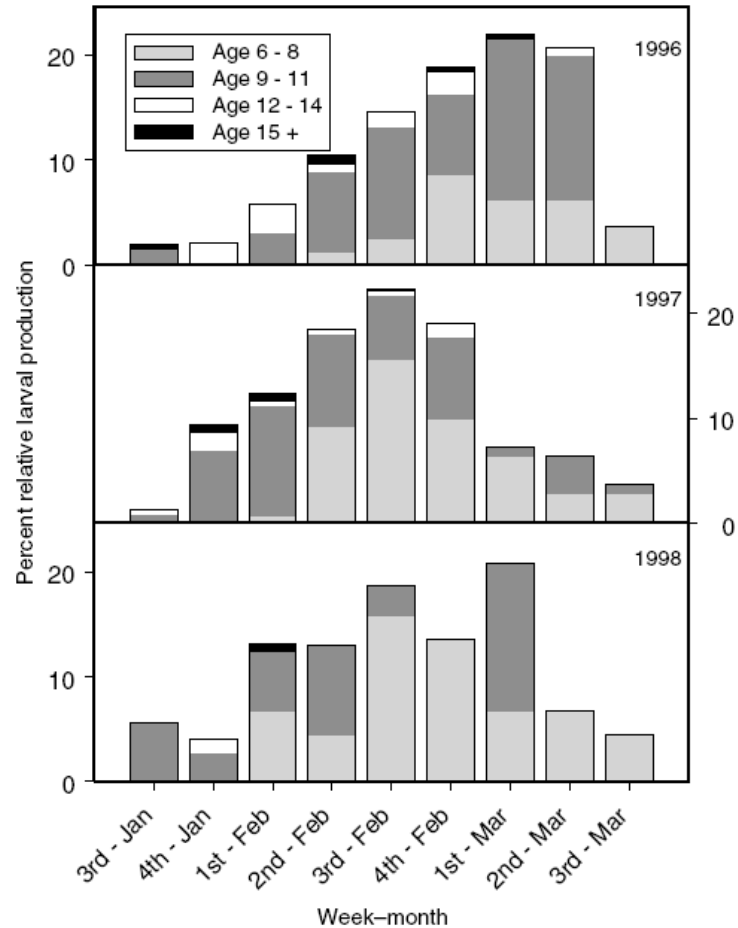
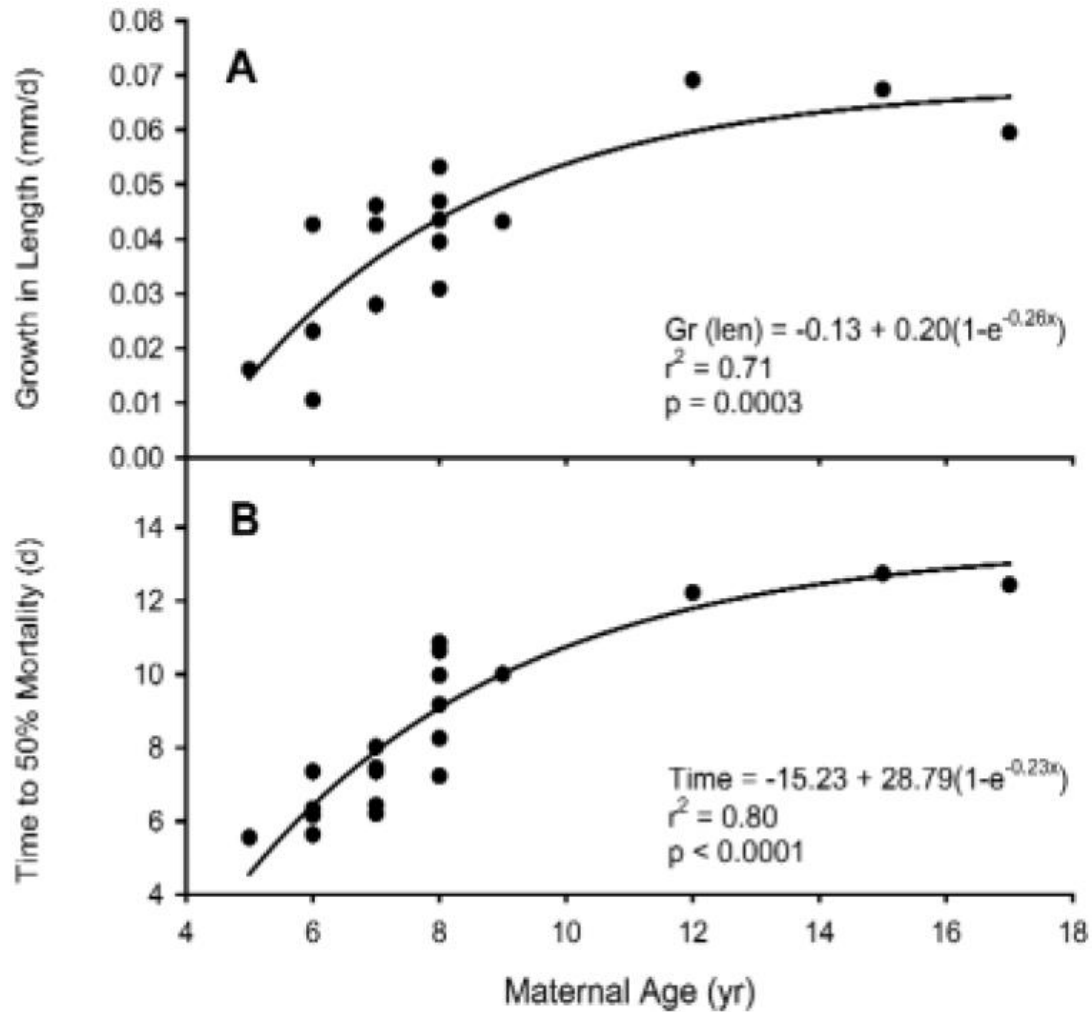


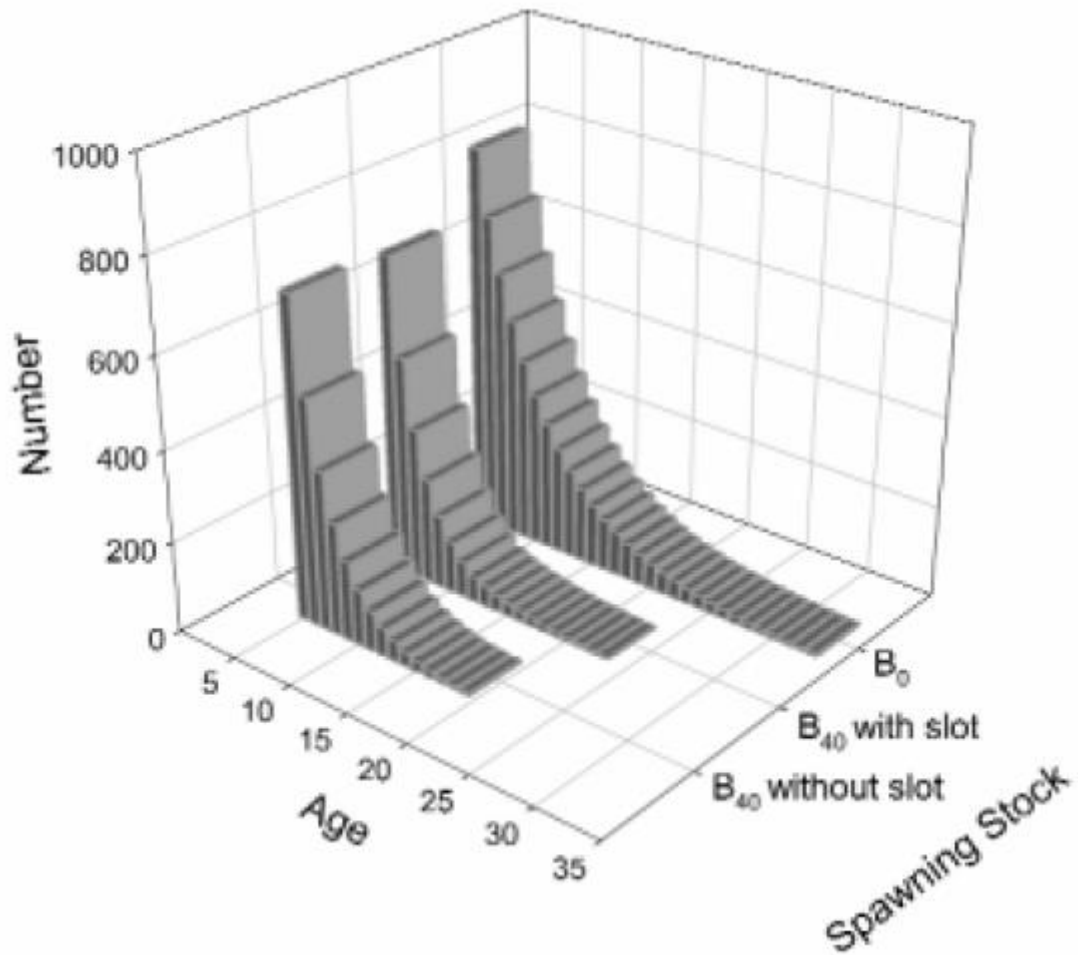
Figure 11

Percent relative larval production estimated from observations of larval development and age-group-specific absolute fecundity (based on fertilized eggs) for all mature females belonging to each age group of black rockfish collected in Oregon during 1996–98.

Maternal effects



Maternal effects



Male mating strategies

- Group spawning –Sperm competitors
- Territoriality –Mate competitors
 - Leks
 - Nest guarding
- Sneaker, streakers, and satellite spawners

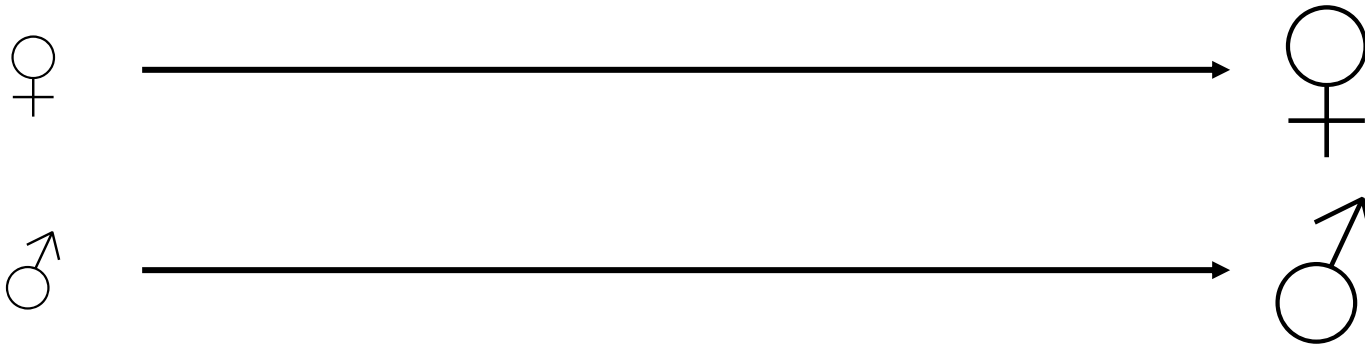
Nest guarding –Lingcod



Phase shifts in male reproductive tactics

Immature

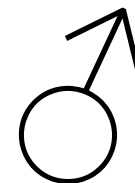
Mature



Immature

Initial phase

Initial phase

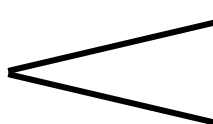


Terminal phase

Immature



Initial phase



Initial phase



Initial phase



Group spawning



Group spawning



Territoriality



Territoriality



Sex change

