The Effects of Biofilms on Invertebrate Settlement

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**Introduction:**
Marine organisms produce scat and chemicals which form a biofilm. This may have an effect on invertebrate larvae settlement. Many invertebrate larvae seem to use these biofilms as cues to settle, while others may be deterred by them in an effort to avoid competition.

**Questions:**
- Do invertebrate larvae have a tendency to settle on surfaces with biofilms?
- If so, do they prefer monospecific or multispecific biofilms?

**Methods:**
- One ceramic tile was placed in an oyster tank to obtain monospecific biofilm while another tile was placed in a mixed invertebrates tank to obtain multispecific biofilms for a week.
- These tiles, along with a clean tile, were put on a cinder block and left in the Charleston Harbor at Grice Marine Lab.
- The tiles were collected after a week and analyzed for settlement.
- This process was repeated for 4 weeks.

**Results:**
- Biofilms appear to be inversely related to settlement.
- Settlement at the location tested during March was almost exclusively barnacle *Chthamalus sp.*
- There seems to be settlement events rather than steady settling throughout the month.

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**Results:**
- All of the settled species were barnacles (*Chthamalus sp.*) in varies stages of metamorphosis.
- Biofilm tiles from the oyster tank showed the least amount of settlement.
- The clean tile had the most settlement. Most occurred during week 3 (March 14 – 20).

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