

2/28/2006

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Schwarz, J.A., Krupp, D.A. and Weis, V.M. (1999) *Biol Bull* **196**: 70-79.

## **Hawaii – Extracting Algae from Coral**

Time: ~2-2.5 hrs

### **Materials/Reagents**

0.25µm filtered seawater (fsw)

Lg. Ziploc bags

Waterpik

Benchtop pik: pro – use finite amount of water, con – re-circulating water clogs pik

Handheld pik: pro – don't clog, con – have to track water level and refill, hard to maintain angle of spray w/o dumping water

Airbrush: pro – minimal mucus from *Fungia*, con – difficult to locate all of the parts on Coconut Isl. Best to bring your own!

50ml glass non-rough tissue homogenizer (Ask Dave or Lea, they are usually hidden)

50ml conical tubes

Respirator mask – optional, used to prevent allergies to nematocyst cloud

### **Procedure**

#### **A. Extraction of algae**

1. Obtain medium sized *Fungia scutaria* or fragment of coral of interest
2. Place into ziploc, seal all but one corner
3. Fill waterpik with fsw, insert pik into open corner of ziploc and place close to coral
4. Turn on waterpik, rapidly move over surface of coral (should begin to lighten in color)
5. Pik until coral is clean or you are out of water
6. Refill and repeat if necessary
7. Pour extracted gimish (host tissue, mucus and algae) into tissue homogenizer
8. Homogenize until smooth in texture – careful to NOT let homogenizer slam to the bottom
9. Pour into 50ml conical tube
10. Spin 3min, ~6,000xg
11. Pour off supernatant – sometimes there is a mucus on top, pipette back into the homogenizer
12. Add fresh fsw to 40ml, mix well to re-suspend algae
13. Pour back into homogenizer
14. Repeat (4-5x) until a thick brown color, combining tube volumes as you go
15. Keep at room temp in low light, use/titer within 2h – don't let sit for too long at high concentrations

### **Comments:**