

## **Beetle exoskeleton preparation**

If you have any questions, contact Dr. Nayeon Lee, [nayeon@cavs.msstate.edu](mailto:nayeon@cavs.msstate.edu)

Set up a cup of 1/4 Dawn dishwashing soap and 3/4 water, then put in 8 cotton balls.

### **1. Attach Rondo Disc and 600 Silicon carbide paper**

Set up polisher:

- (a) 150 RPM
- (b) Time – 1 minute max on paper
- (c) Force — 15 N
- (d) Water — On

After Grinding, if scratches aren't uniform, grind longer.

#### **Clean:**

- (e) sample with water and use one of the cotton balls (it is ok to rub hard)
- (f) ring guard
- (g) mover plate
- (h) platen
- (i) through away used carbide paper
- (j) Rondo Disc - dry off and put away

### **2. Attach Fuga Disc and 2400 Silicon carbide paper**

Set up polisher:

- (a) 150 RPM
- (b) Time - 1 minute max on paper
- (c) Force — 10 N
- (d) Water — On After Grinding, if scratches aren't uniform, grind longer.

#### **Clean:**

- (e) sample with water and use one of the cotton balls
- (f) mover plate
- (g) platen
- (h) through away used carbide paper
- (i) Fuga Disc - dry off and put away

### **3. Attach Rondo Disc and 4000 Silicon carbide paper**

Set up polisher:

- (a) 150 RPM
- (b) Time - 1 minute max on paper
- (c) Force — 10 N
- (d) Water — On



After Grinding, if scratches aren't uniform, grind longer.

**Clean:**

- (e) sample with water and use one of the cotton balls
- (f) ring guard
- (g) mover plate
- (h) platen
- (i) through away used carbide paper
- (j) Rondo Disc - dry off and put away

**4. Attach DP-FLOC pad with Rondo Disc for 3 $\mu$**

Set up polisher:

- (a) 150 RPM
- (b) Time — 3 minutes
- (c) Force — 10 N
- (d) Water — Off

Put a 'Z' Pattern of Red Lubrication and 5 drops of 3  $\mu$  DP-Suspension on disc before starting.

*Start Polisher* — Every 10 seconds add 4 to 5 drops of Red Lub. Every 20 seconds add 2-3 drops of 3  $\mu$  DP-Suspension to disc. Just to keep moist, not wet. After Polishing, if scratches aren't uniform, polish longer.

**Clean:**

- (e) sample with water and use one of the cotton balls (do not rub hard)
- (f) ring guard
- (g) mover plate
- (h) platen
- (i) **Do not remove pad from Disc** — Rinse and dry with squeegee' dry with air and put away

**5. Attach DP-FLOC pad with Rondo Disc for 1  $\mu$**

Set up polisher:

- (a) 150 RPM
- (b) Time — 2 minutes
- (c) Force — 10 N
- (d) Water — Off

Put a 'Z' Pattern of Red Lubrication and 5 drops of 1  $\mu$  DP-Suspension on disc before starting.

*Start Polisher* — Every 10 seconds add 4 to 5 drops of Red Lub. Every 20 seconds add 2-3 drops of 1 $\mu$  DP-Suspension to disc. Just to keep moist, not wet.

After Polishing, if scratches aren't uniform, polish longer.

**Clean:**

- (e) sample with water and use one of the cotton balls (do not rub hard)
- (f) ring guard
- (g) mover plate



(h) platen

(i) **Do not remove pad from Disc** - Rinse and dry with squeegee, dry with air and put away

### **6. Attach DP-FLOC pad with Rondo Disc for 1 $\mu$**

Set up polisher:

(a) 150 RPM

(b) Time — 2 minutes

(c) Force — 10 N

(d) Water — Off

Put a 'Z' Pattern of Red Lubrication and 5 drops of 1  $\mu$  DP-Suspension on disc before starting.

*Start Polisher* — Every 10 seconds add 4 to 5 drops of Red Lub. Every 20 seconds add 2-3 drops of 1 $\mu$  DP-Suspension to disc. Just to keep moist, not wet.

After Polishing, if scratches aren't uniform, polish longer.

#### **Clean:**

(e) sample with water and use one of the cotton balls (do not rub hard)

(f) ring guard

(g) mover plate

(h) platen

(i) **Do not remove pad from Disc** - Rinse and dry with squeegee, dry with air and put away

### **7. Attach OP-S MD Chem Cloth**

Set up polisher:

(a) 150 RPM

(b) Time — 1 minute

(c) Force — 15N

(d) Water — Off

Set up a cup of OP-S, 2 OP-S to 1 water ratio.

Pour a puddle of OP-S on MD Chem Cloth

Start Polisher — keep the cloth wet not moist. Continuously drip the OP-S onto the cloth

After polishing sample, check for scratches, polish longer if there are any scratches.

#### **Clean:**

(e) **Direct water onto MID Chem Cloth and squeegee to thoroughly clean cloth.**

**Also, squeegee dry and put away.**

(f) sample with water and use one of the cotton balls (lightly wash, barely touching sample)

(g) ring guard

(h) mover plate

