Redberry Mites Detection and Collection

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Detection

- Where are they before they get to the fruit?
- How do we trap and collect them?

On the Canes

Primocane

- Found in lower 20% of cane length within leaf axils and buds

Fructocane

- Found in upper 20% of cane in bracts
- Lower 20% within leaf axils and buds

Davies et al., 2001

Trapping Techniques

- Sticky tape method – secure adhesive along the cane to trap mites

- Water Trap –a shallow metal pan with water and dish soap, 6” off the ground

Sticky Tape Method

Pros

- Detects movement along the canes
- Determine distribution
- Population density

Cons

- Moisture can reduce stickiness
- Adhesive can collect debris
- Not suitable for photos

Water Trap

Pros

- Detects aerial movement
- Suitable when live specimen are needed

Cons

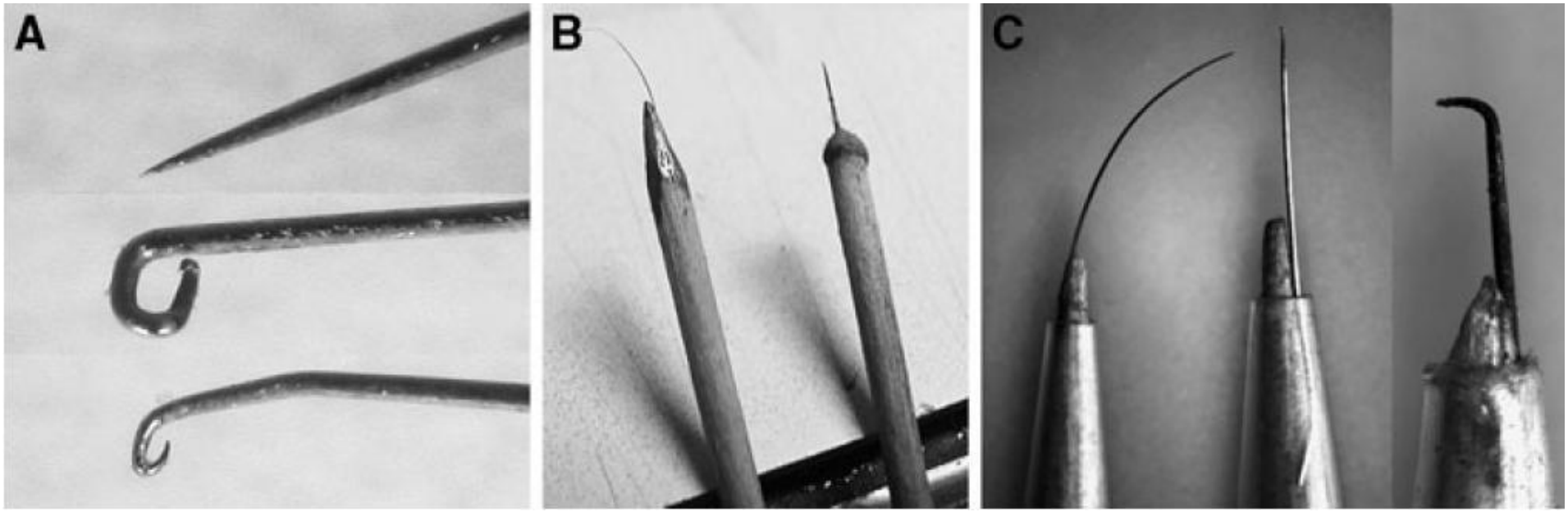
- Does not detect movement towards buds/fruit
- Special care to extract from H_2O

Filtering Equipment

- Filter through a fine mesh sieve
- Rinse residue collected into a dish
- Sort and collect

Cal Welbourne, Florida Department of Agriculture & Consumer Services

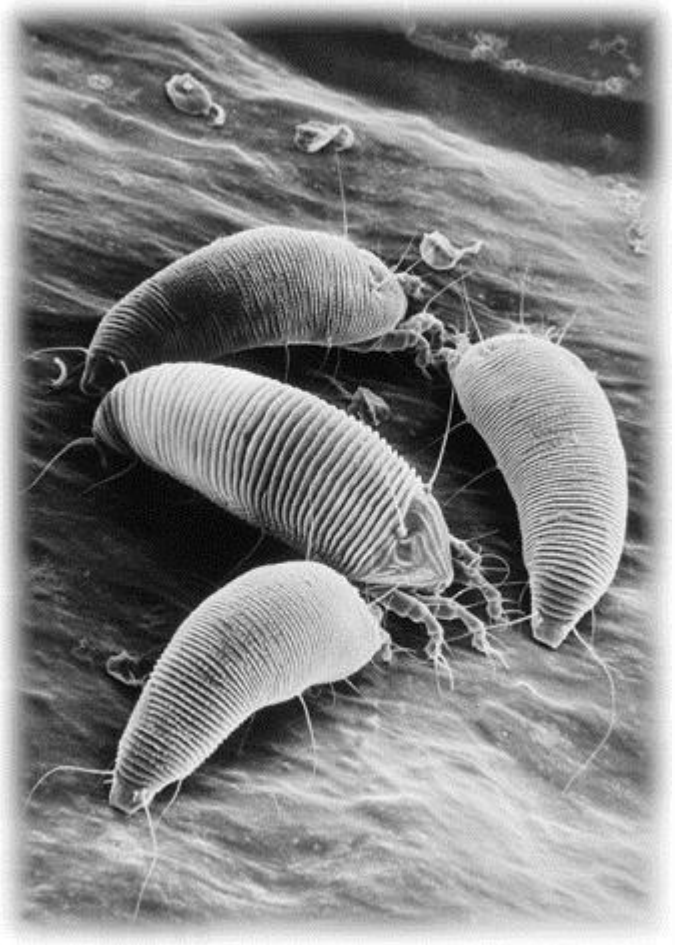
Collection Tools



A – Shaped micropins
B – An eyelash secured with nail polish (left) and short minuten pin secured with epoxy (right)
C- eyebrow hair (left), micropin (center) and bent pin (right) inserted into the narrow end of a micropipette and secured by a toothpick inserted from the other end (de Lillo et al.,2010)

Difficult to Document

Aceria anthocoptes



Ochoa et al., 2001

Acalitus essigi

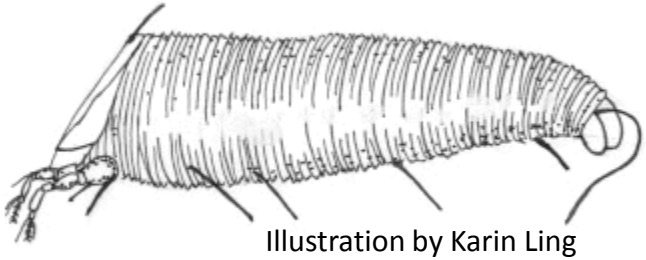
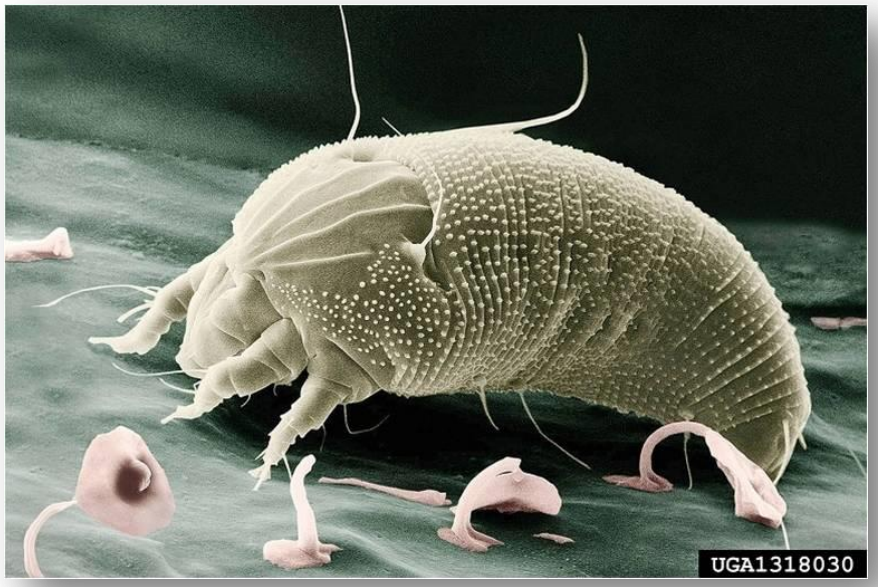
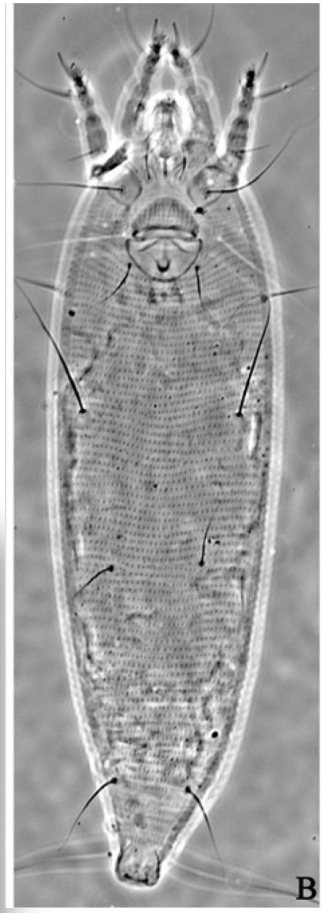


Illustration by Karin Ling





More work to do

- Time consuming
- Difficult to see and handle
- Special equipment to see ID characters

However…

- Collection tools are simple and inexpensive
- Experiment with digital photos

Resources:

- http://www.humboldtmfg.com/cement_wet_washing_sieves.html
- Eriophyoid Mites: Progress and Prognosis
- Ohio State University Acarology Summer Program