UCB research update on troublesome ants

Vernard Lewis
UC Berkeley

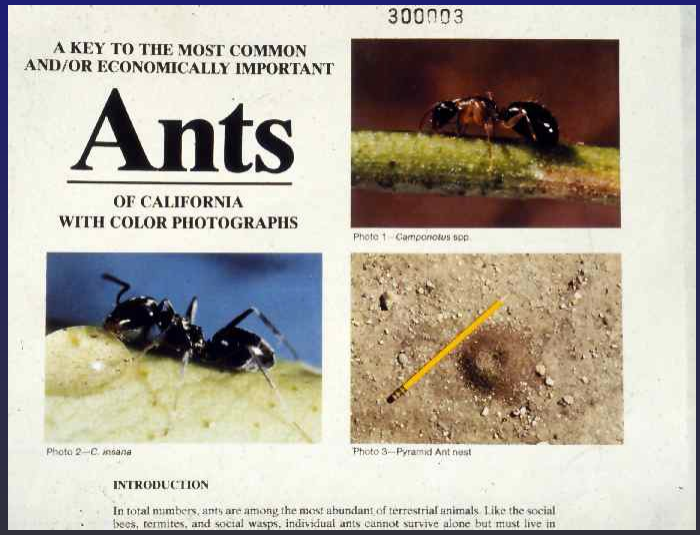
Invertebrate Pests Identification & Management

Catheys Valley, CA, Dec. 14, 2012

Basic Ant Facts

- Order Hymenoptera
- Closely related to bees and wasps
- 200 species in California
- New ant key for CA, see below
- Will say more later about ID and key

- http://www.ipm.ucdavis.edu/TOOLS/ANTKEY/KEY_PAGES/nodes.html



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A KEY TO THE MOST COMMON AND/OR ECONOMICALLY IMPORTANT

Ants

OF CALIFORNIA WITH COLOR PHOTOGRAPHS

Photo 1—*Camponotus* spp.

Photo 2—*C. vicinus*

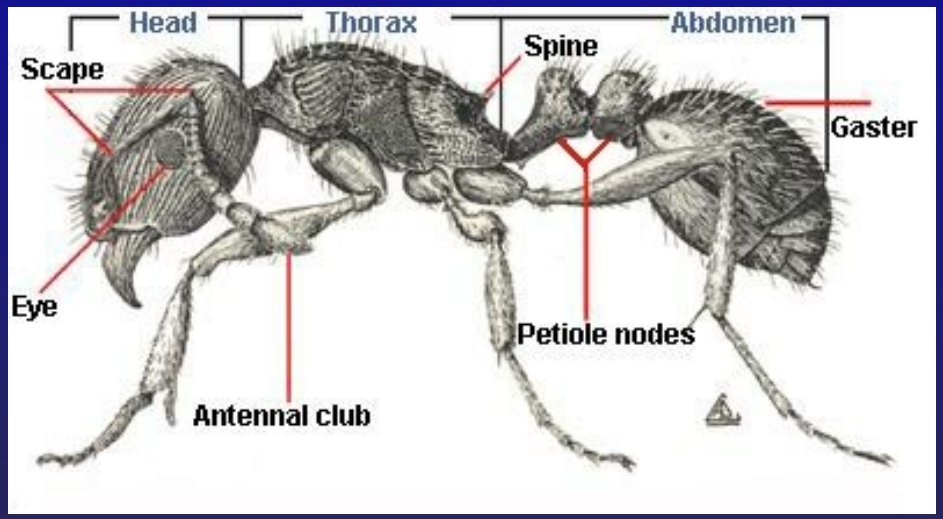
Photo 3—Pyramid Ant nest

INTRODUCTION

In total numbers, ants are among the most abundant of terrestrial animals. Like the social bees, termites, and social wasps, individual ants cannot survive alone but must live in

General Ant Anatomy

- Three main body regions

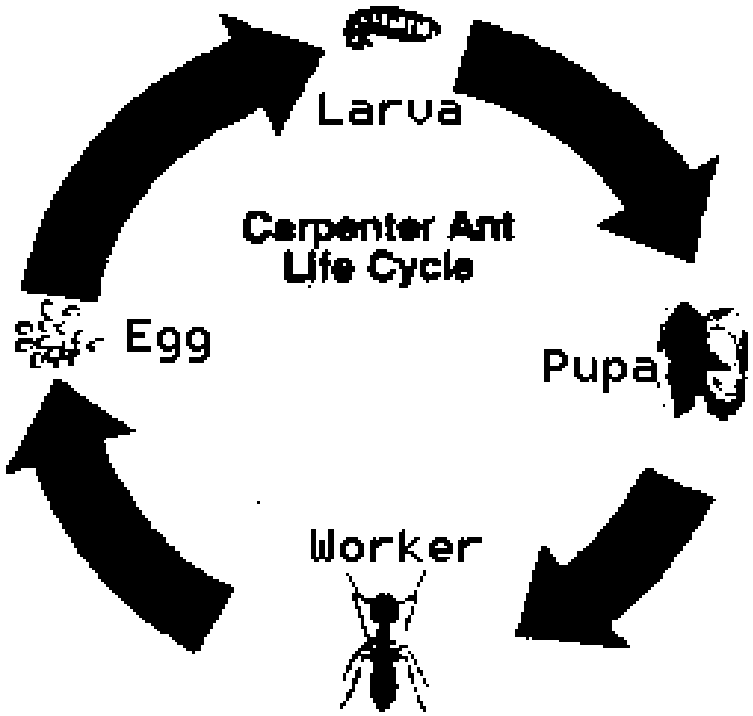


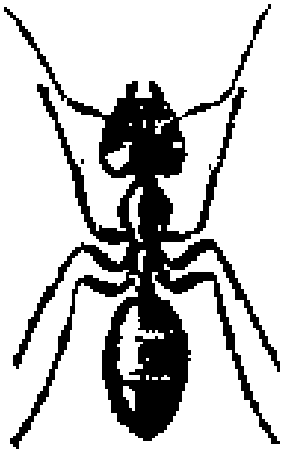
Ant Life Stages

- Larvae and Pupae

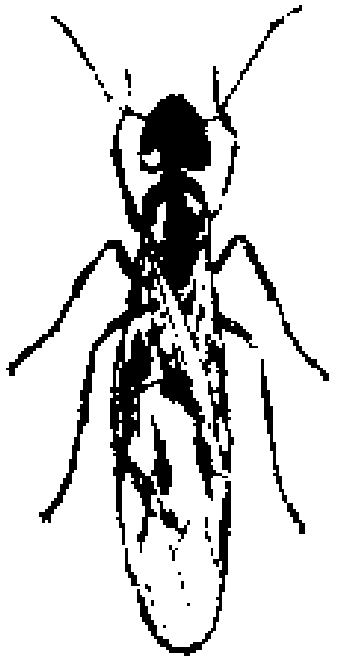
- Pupae

Complete Metamorphosis





Worker Ant



Winged Female

Carpenter ants are unusually large and blackish in color

Ants, four unequal wings

Argentine Ant
Linepithema humile

History as Pest
No #1 in two Worlds

1st Urban Setting

1st Agricultural Setting

Food Preferences

But will eat protein, dog food, meat, cadavers…

Just how big are the colonies?

- Swarez et al. 2001

- Bigger one in Europe
- Giraud et al. 2001

Why do ants come inside?

Gordon et al. 2001

Suoja 2003

Management & IPM

It’s the law for structural!

Baiting

- Has a long history….

Hooper-Bui & Rust 2000

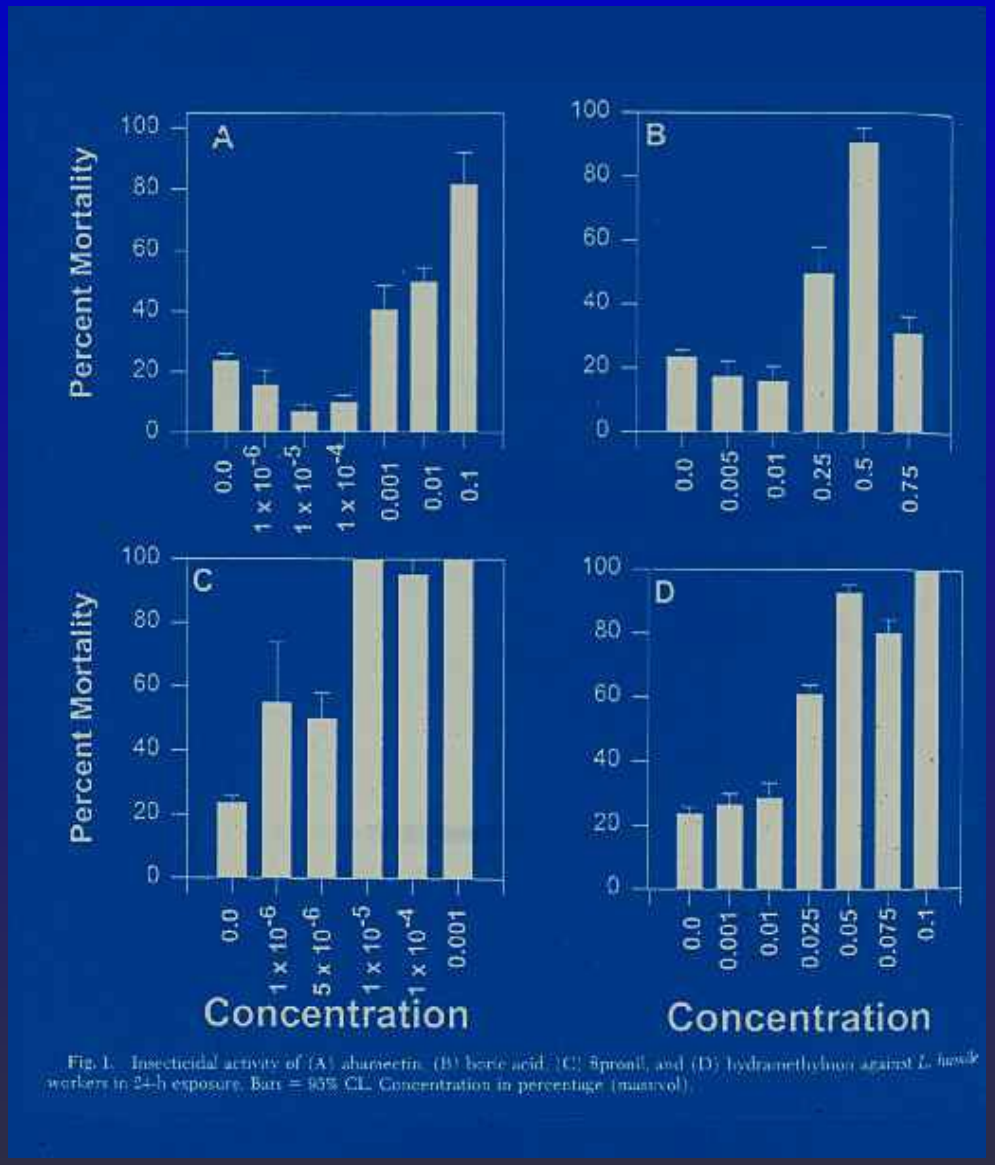
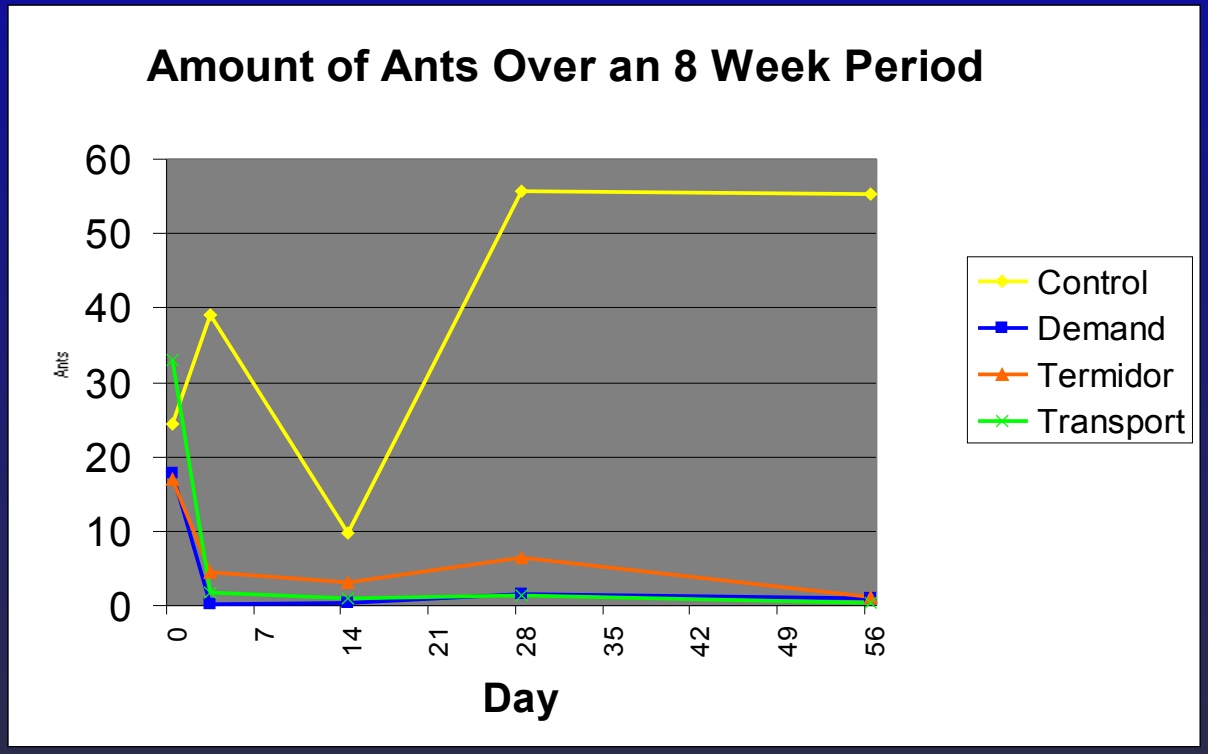


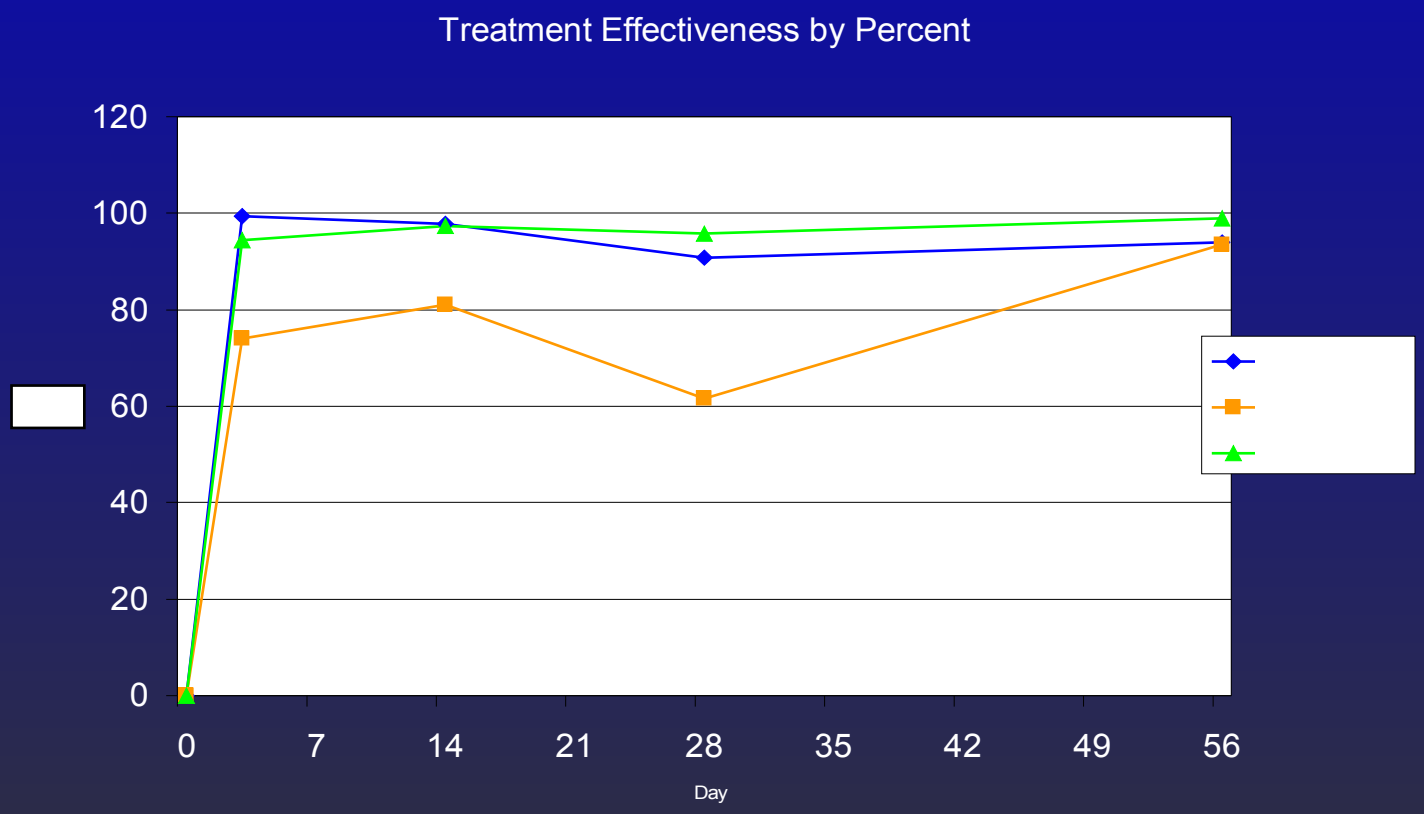
Fig. 1. Insecticidal activity of (A) abamectin, (B) boric acid, (C) fipronil, and (D) hydramethylnon against *L. humile* workers in 24-h exposure. Bars = 95% CL. Concentration in percentage (mass/vol).

Perimeter Spray

Average ant number over 56 Days



Percent Effectiveness



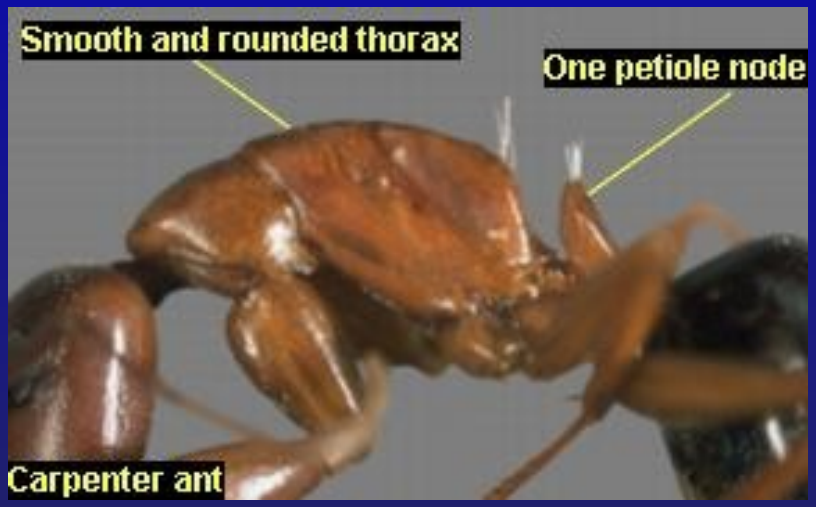
But…environmental quality

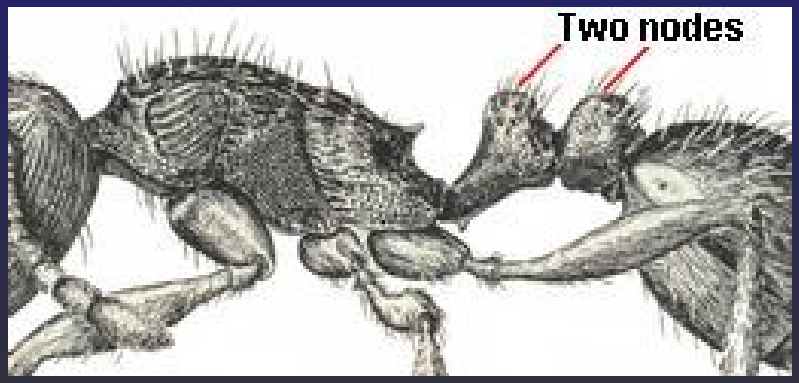
- New regulations for urban waterways
- Outdoor pesticide applications for ants in urban limited

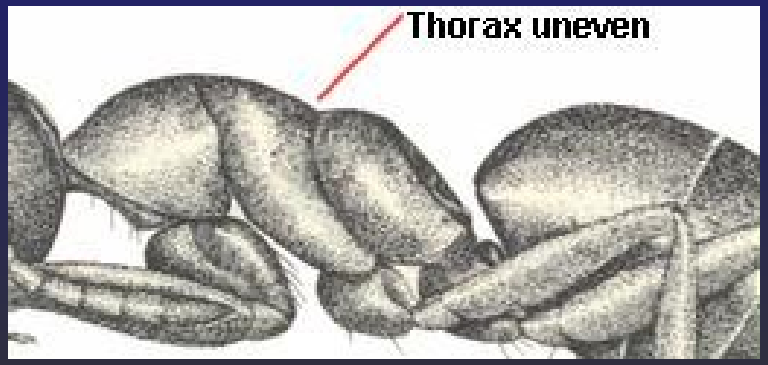
Some other ants

Pharaoh's Ant
Monomorium pharaonis

Carpenter Ant Single Node







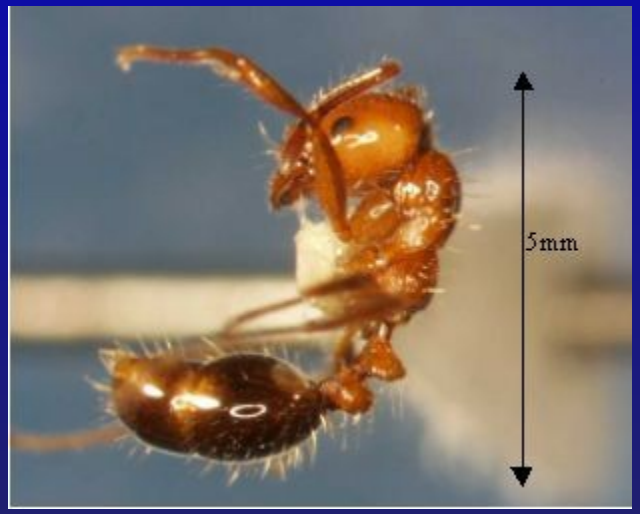
Signs of an infestation

Harvester Ant
Pogonomyrmex spp.

Red Imported Fire Ant
Solenopsis invicta

Stingers!

Also native species of Fire Ants



Ant control

Catalyst
Catalyst
Catalyst

NiBan

ADVANCE
DUAL
CHOICE

NATURAL
PEST
CONTROL
Alternatives to Chemicals
for the Home and Garden

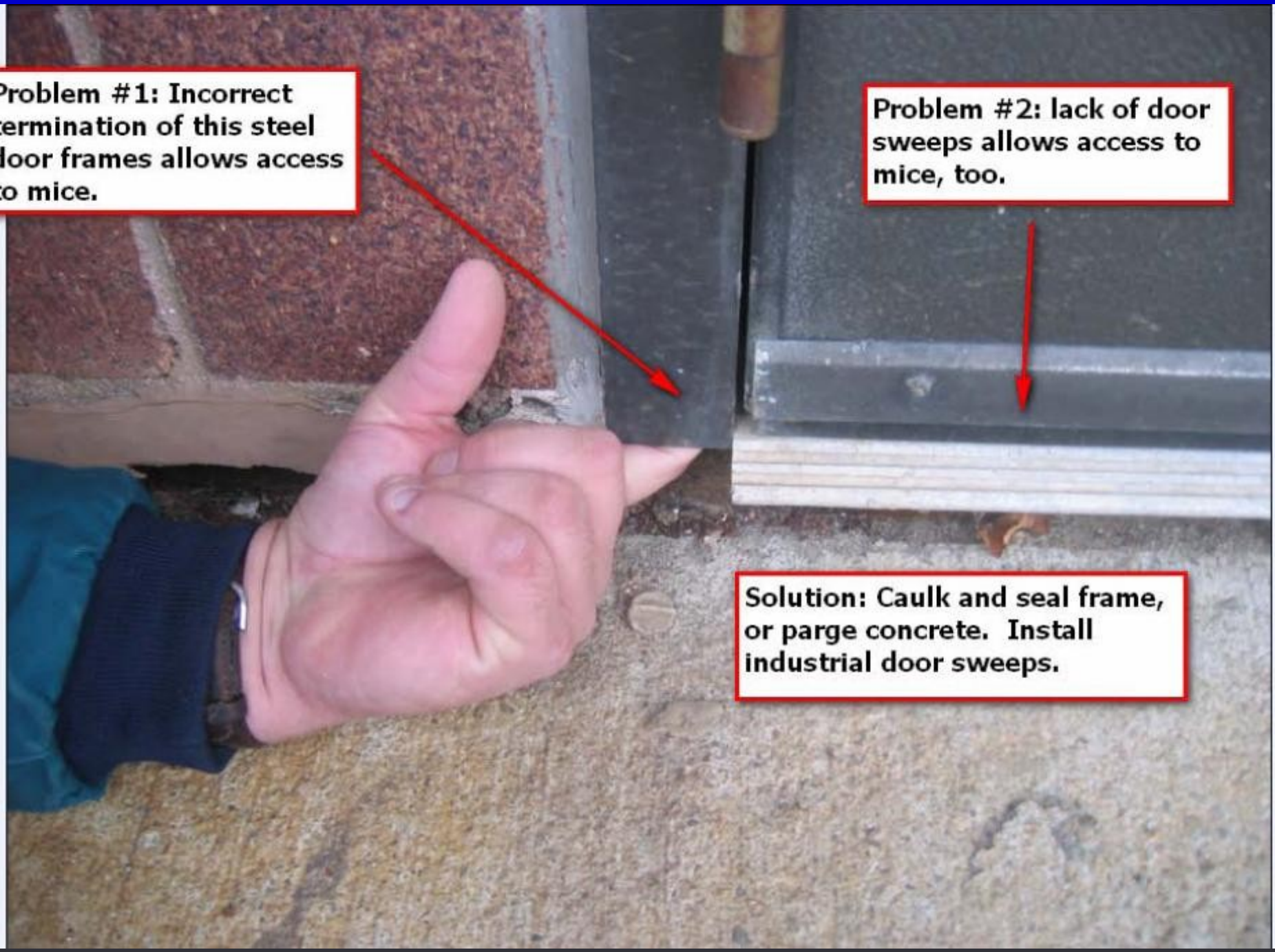
Pharorid

Pest Prevention By Design

Photo credits: Chris Geiger, Luis Agurto Jr., Boston Housing Authority, Greg Axten

Rodent & Insect Stop
KEEP MICE & RATS OUT!
ADVANTIX

13
Gaskets on outlets


Problem #1: Incorrect termination of this steel door frames allows access to mice.
Problem #2: lack of door sweeps allows access to mice, too.
Solution: Caulk and seal frame, or parge concrete. Install industrial door sweeps.

Thank You!

Useful websites

UC Berkeley Urban Pest Management
http://nature.berkeley.edu/upmc

UC Davis Pest Notes
http://www.ipm.ucdavis.edu/PMG/menu.homegarden.html