Insect Pests of Food Establishments

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Pest Insects Associated with the Food Service Environment

Every food establishment will experience some pest activity:

Why?

Odors, water, heat, deliveries, traffic, abundant putrescible trash, abundant food prep and storage.

Food Safety (right?)

Examples:

Supermarkets
Convenience Stores
Restaurants
Schools, etc.

Insect Pests of Health Significance in Food Handling Environments

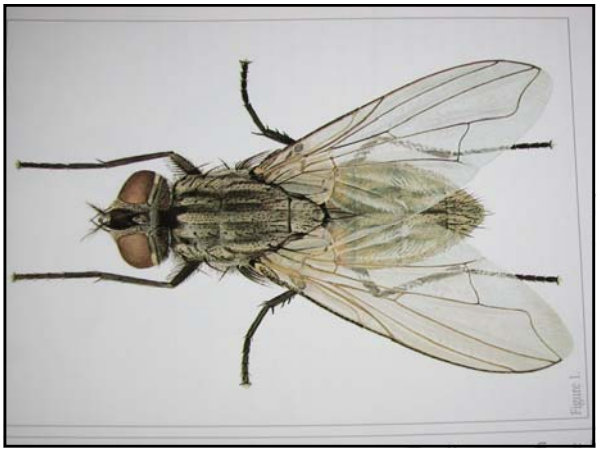
Filth Flies

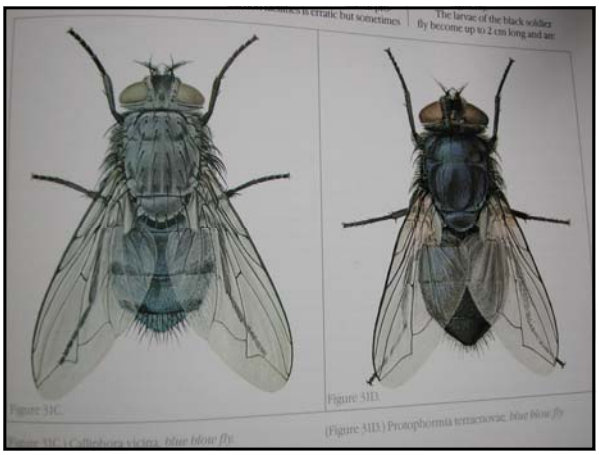
1. **Small flies**
   (e.g., fruit flies phorid)
3. **G. cockroaches**
4. **A. cockroaches**

Large Flies
Small Flies

Filth Flies

1. Common house fly
2. Blow flies





Animal feces

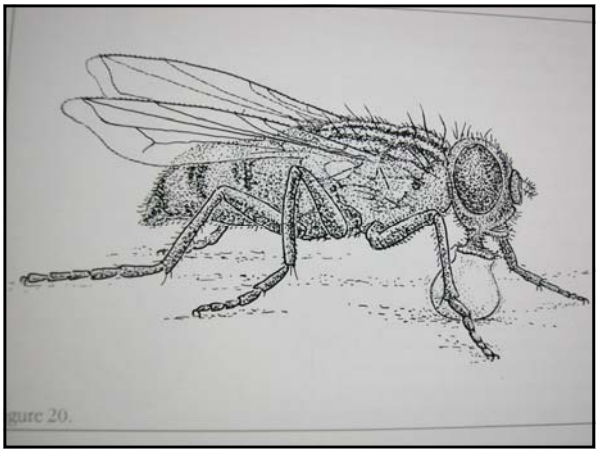
Sputum

Scum

Decaying flesh

Decaying food

Organic soup slime



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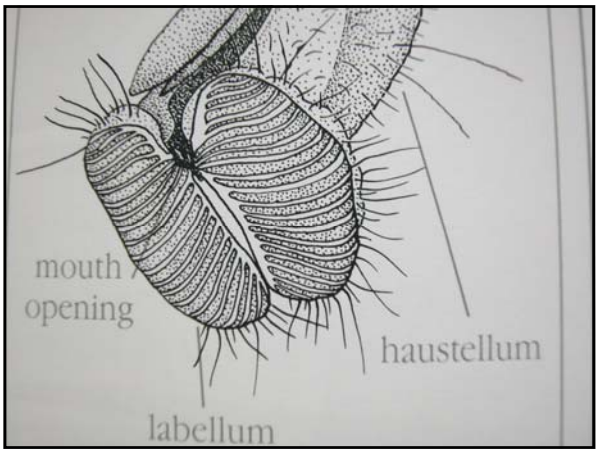


Not all drains are equal:
broken tiles;
drain seat;
food

Drains:

a near compactor

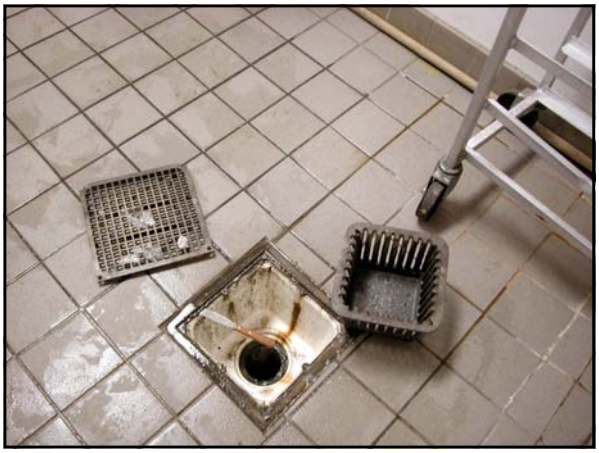
b. near dairy

c. in deli

d. in produce

Not the Drain itself

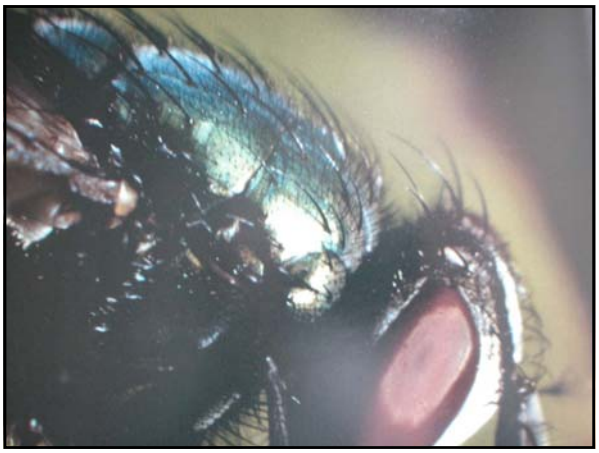
The Drain Structure



Even if there isn't anything to find…

Just doing the drain inspection…….

(HO/PMP)



The slop sinks

Closets……..

It is understandable there can be a few flies inside a large food establishment during the summer months

But…..

Deli, fast food, etc…..

Fly control during the summer requires

formal efforts (i.e.$)

not simply putting out some fly lights

Fly zappers do not control infestation sources

Dumpsterology

1. Type
2. Location, location, location
3. Training for staff
4. Proper cleaning of dumpster pad and proximity.

It truly seems

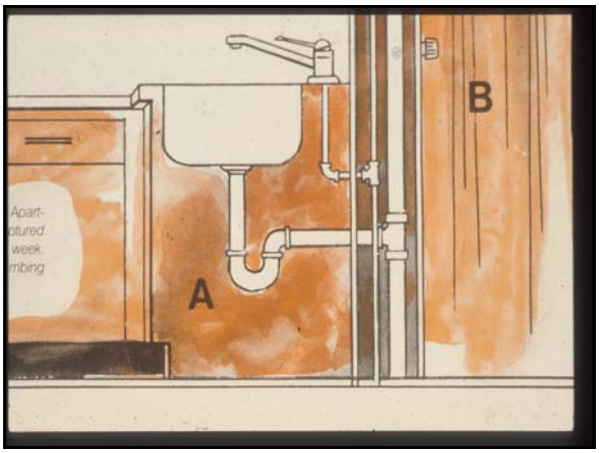
H. sapiens is incapable of not overfilling their

trash receptacles.

Cockroaches:

1. **In kitchen/dining areas:**
   German cockroach

2. **Basements, drains:**
   American cockroaches
   ("those big suckers")



The German Cockroach

Shine a light into cracks and crevices of warm areas nearby sources of *water;*

American cockroach

"those big suckers in the basement"

Beetles and Moths Inside Food Facilities

Beetle life cycles:

Egg, larva, pupa, adult

Time to complete:

3 wks-several months

(temp, humidity and food)

50-60 days is an OTJ average.

Moth vs. Beetle Larvae

Moths

Indian meal moth

1. **Mediterranean flour moth**
2. **Angoumois moth**

Wee

Indianmeal Moth Larvae

Moth life cycles:

Egg, larva, pupa, adult

Time to complete:

4 wks-several months

(temp, humidity and food)

40-50 days is an OTJ average.

Controlling beetles and moths inside food related facilities:

Three things:

1. Sanitation is pest control;

2. Rotation of stock

Macrosanitation	Macroinspections
Microsanitation	Microinspections

Consider the sizes: larvae of fruit flies, sawtooth grain beetles, mites and brick veneers, cockroach nymphs, and relative giants: (a house mouse (6mm)

Rotation

Rotation

Rotation

Of all spices, flours, cereals

3. There is little a pest professional can do with any treatments;

Their role is source identification and guidance (e.g., what out of sight areas require cleaning).

BEE, WASPS and HORNETS

All bees and wasps are beneficial.

Should not be removed unless:

- direct damage by their nesting activity
- stinging threat in or around structures and areas of high human activity

Yellow Jacket Wasps (*Vespula* sp.)

Most active late summer – fall around food

Yellow Jacket Biology

- Yellow jackets are heavy-bodied wasps, black with yellow or white markings, about 1/2 inch long.
- They live in grey, papery nests located either below ground, or suspended above ground in vegetation. The nests have only a single opening.
- Hunting "workers" search for prey, carrion or rotting fruit, and are attracted to any meat or sugary item. Food is carried back to the nest where it is fed to nest mates.
- Stings usually occur through accidental contact with the nest or nest entrance.

Control of Yellow Jacket Nests

Insecticidal Treatment If problem nests can be located, usually by worker activity around nest entrances, treat at dusk with an approved "wasp & hornet" aerosol insecticide.
Treat directly into the nest opening. For ground nests, seal the nest entrance with rock or soil. Do not pour flammable liquids into nests.

Poison Baits and/or Non-Toxic Traps may also be effective under certain circumstances – follow directions closely.

Likely Problem Areas: Dumpsters, and other trash holding containers in places like parks or recreational areas. Picnic/camping sites.

Nuisance Ants

Problem species:

Argentine Ant, *Iridomyrmex humilis*

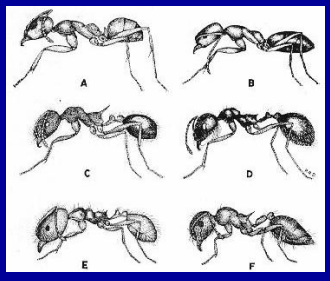
Pharaoh Ant, *Monomorium pharaonis*

…and many others, depending on geographic location

Control: species differences, so identification is helpful…treat trails, baits, insecticidal sprays, indoor vs. outdoor treatment

House-infesting Ants

Argentine ant



Iridemyrmex pruinosus

Longspined Harvester ant

Jetblack Harvester ant

Western Bigheaded ant

California Acrobat ant

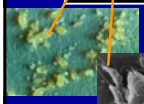
One "node" vs Two

California Acrobat Ant

Pharaoh ants at suger

Mites Infesting Stored Foods

Common Name	Scientific Name
Grain Mite	*Acarus siro*
Mold Mite	*Tyrophagus putrescentiae*
Cheese Mite	*Tyrolichus casei*



Mites can infest stored foods and other organic debris, including:

grain, flour, cereals, dried fruits and vegetables, pet foods, cheese, dried milk, ham, sugar, paper, tobacco, molds, bird and animal nests, etc.

These mites often prefer a moist, damp location.

Sometimes the surface of infested material appears to move due to the enormous numbers of mites (barely visible to the unaided eye).

A coating or piles of brownish "mite dust" may appear on open shelving, around the base of flour sacks, on the surface of cheese or in other foods.

This “dust” is dead and living mites, cast skins and feces.

Prolonged contact with mite infested foods may produce a mild dermatitis known as "baker's" or "grocer's itch."

Other contact may cause bronchial asthma and dust allergies. Also, if mites are taken internally with infested food, stomach disorders may result.

MITE CONTROL =

Inspection

Rotation

Sanitation

1903 – The first science documentary