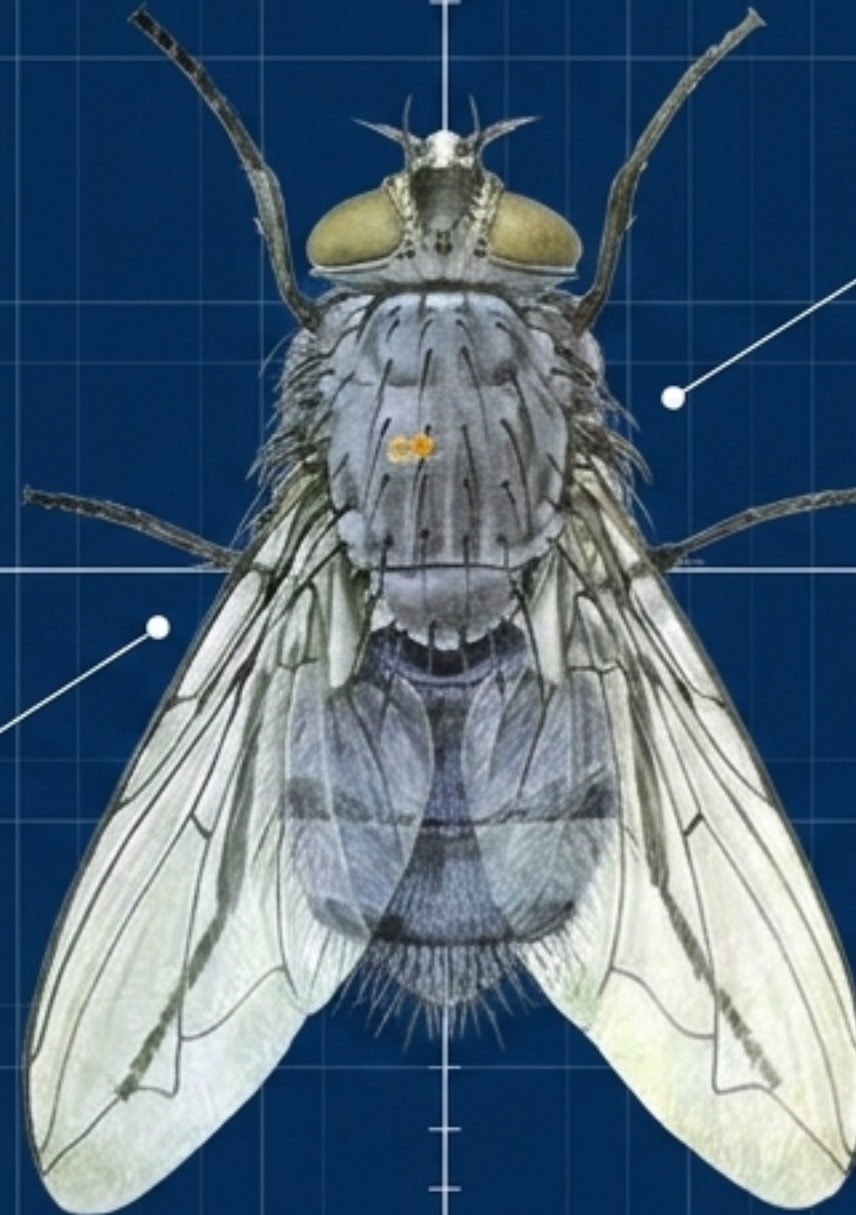


DIPTERA DIAGNOSTICS

A Field Guide to Urban Fly Infestations

Order: Diptera



Characteristic: Two-Winged

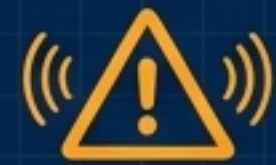


ESA
Certification
Corporation
Prep

ORDER DIPTERA (TWO-WINGED): THE STAKES



THE HEALTH THREAT

- **Biting** 
- **Disease Transmission** 
- **Unsanitary Conditions** 
- **Nuisance** 

THE ENVIRONMENTAL INDICATOR

Flies act as environmental canaries. Their presence signals hidden structural failures, including rotting organic matter, unchecked moisture, plumbing breaches, or structural decay.

CROSS-SECTION VIEW



STRUCTURAL INSPECTION POINTS

DIAGNOSTIC MAP: WHERE TO LOOK

**ROTTING FRUIT &
ORGANIC MATTER**
Fruit Fly, Soldier Fly

POTTING SOIL
Fungus Gnat

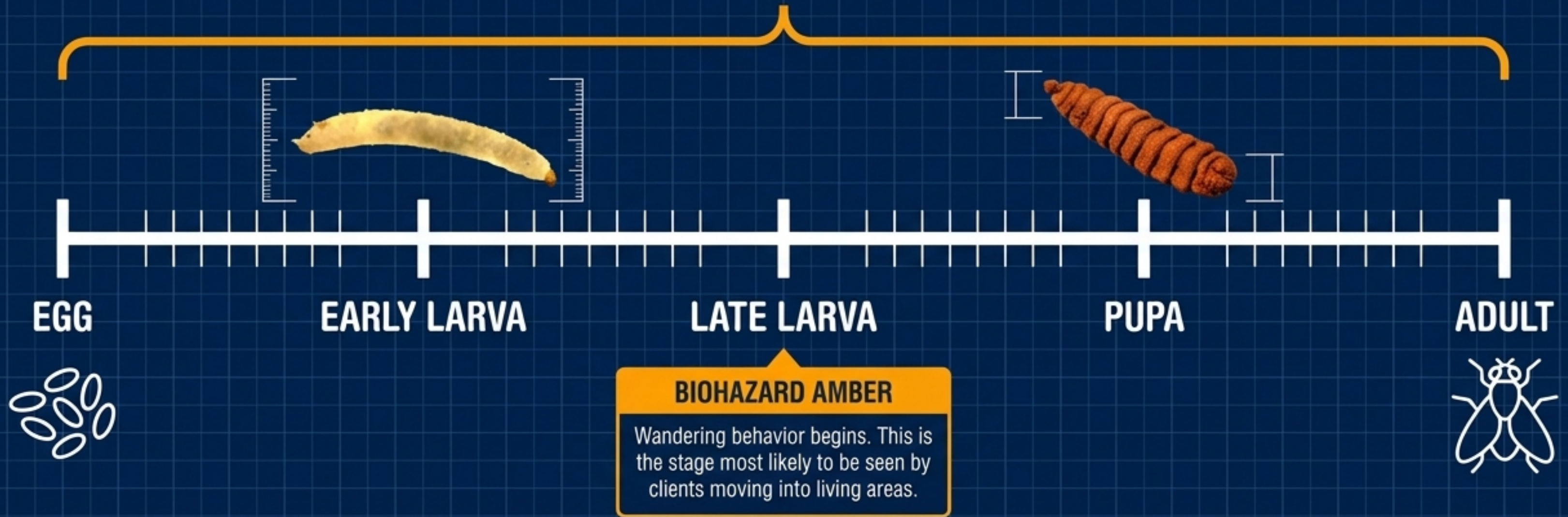
CARRION
Soldier Fly, Blow Flies,
Flesh Flies

DRAINS & SEWERS
Moth Fly, Phorid Fly

OUTDOORS
House Fly, Crane Flies,
Mosquitoes, Cluster Fly

THE BIOLOGICAL ENGINE: A TICKING CLOCK

MINIMUM DEVELOPMENT TIME: 7-10 DAYS

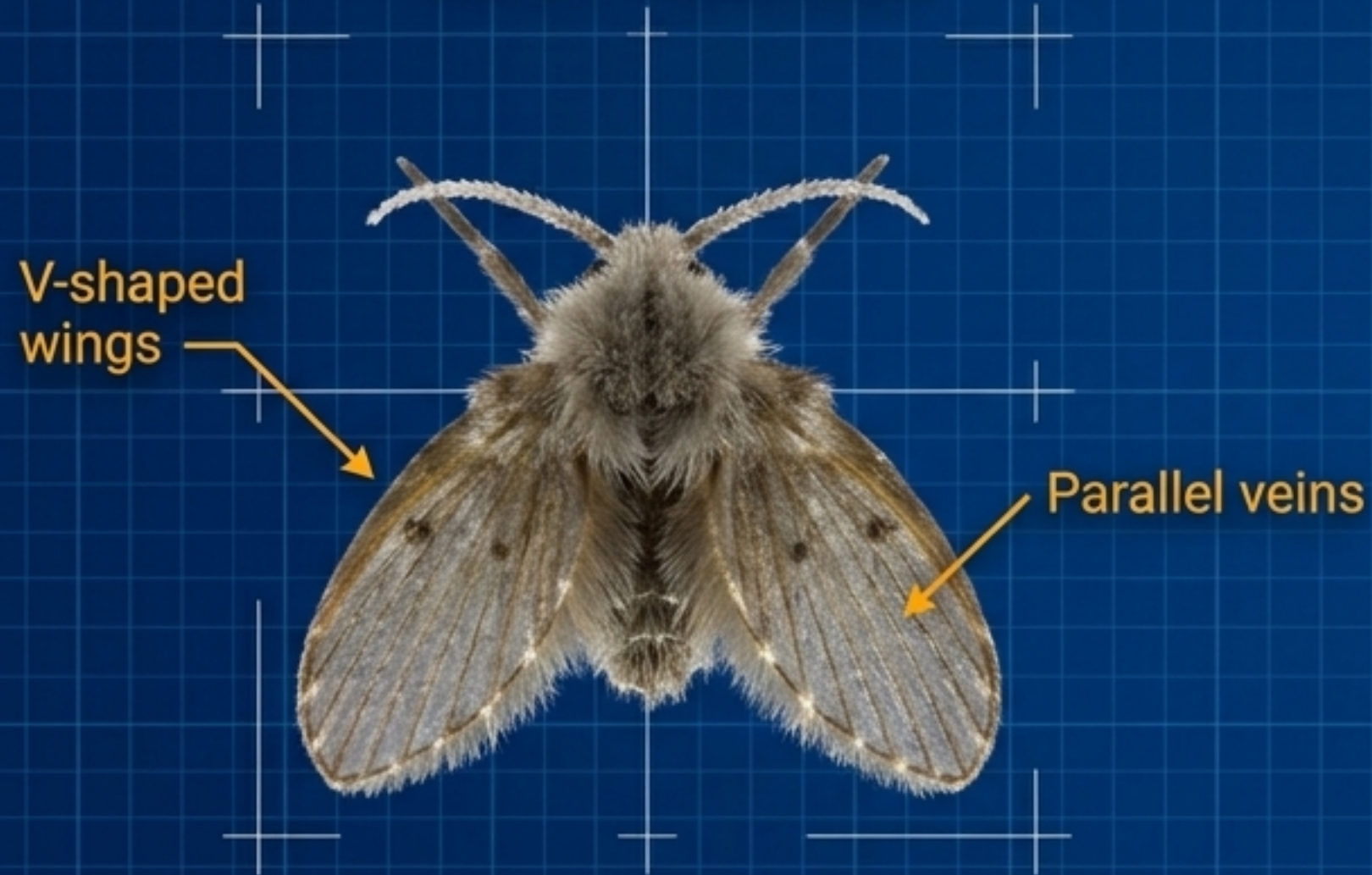


DIAGNOSTIC INSIGHT: Breaking the cycle requires strict sanitation and intervention within this critical 7-day window.

THE DRAIN DWELLERS

MOTH FLY (DRAIN FLY)

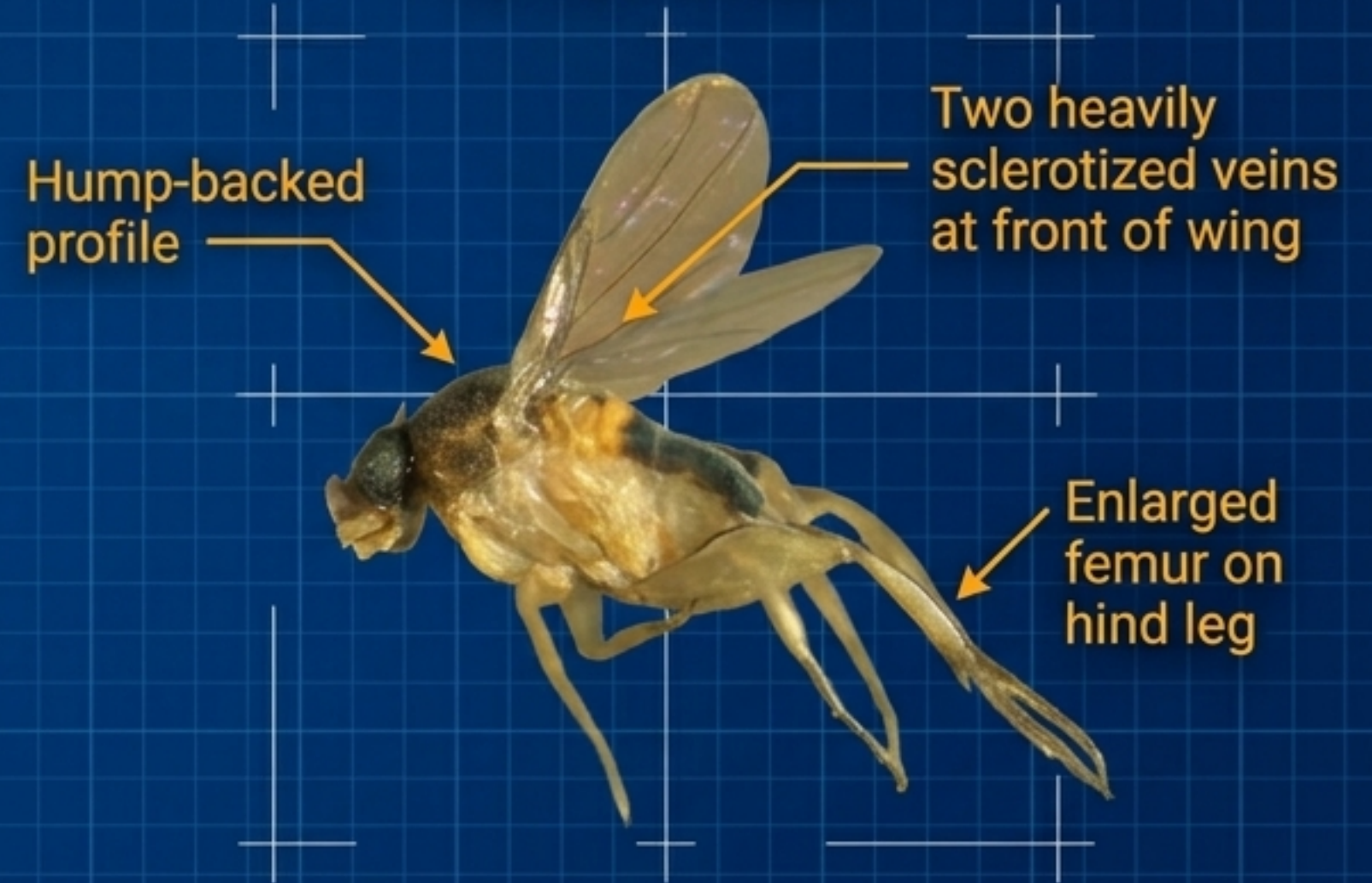
Family: Psychodidae



HABITAT: Drains, cracked tiles.

PHORID FLY (COFFIN FLY)

Family: Phoridae



HABITAT: Wet, organic sites (sewers, carrion, floor cracks).

THE FERMENTERS MATRIX

COMMON FRUIT FLY (VINEGAR FLY)



- **Physical ID:** 2-3 mm stocky body.
- **Breeding Sites:** Fermenting fruits, vinegar, grains, vegetables (bananas, pineapples, tomatoes, syrups, beer).

 Life cycle as short as 8 days

DARK-EYED FRUIT FLY

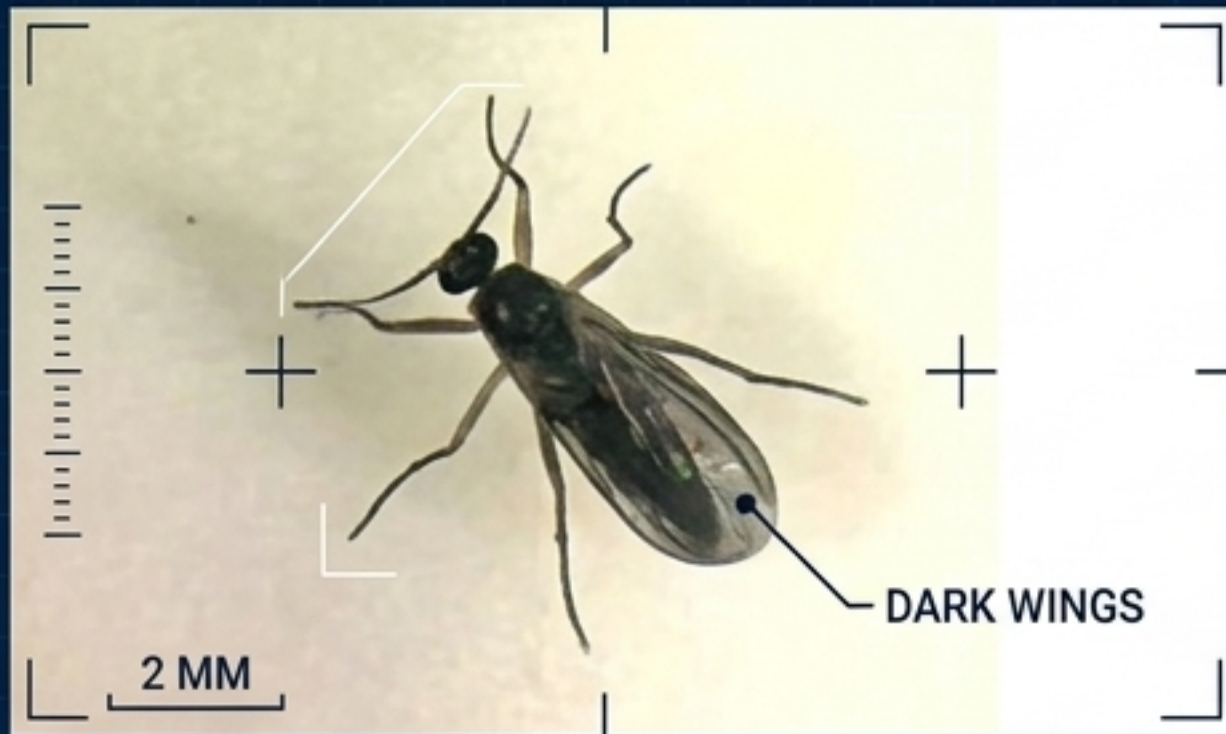


- **Physical ID:** Distinct dark eyes.
- **Breeding Sites:** Less attracted to fruits. Associates heavily with floor drains, trash cans, and dishwashers/kitchen equipment.

DIAGNOSTIC TAKEAWAY: Eye color dictates the inspection path. Red eyes point to food storage; Dark eyes point to plumbing and sanitation equipment.



DARK-WINGED FUNGUS GNAT (Family: Sciaridae)



PHYSICAL ID:
2 MM gnat-like adult.

HABITAT & THREAT:
Larvae feed on roots of potted plants.
Often appear after repotting.

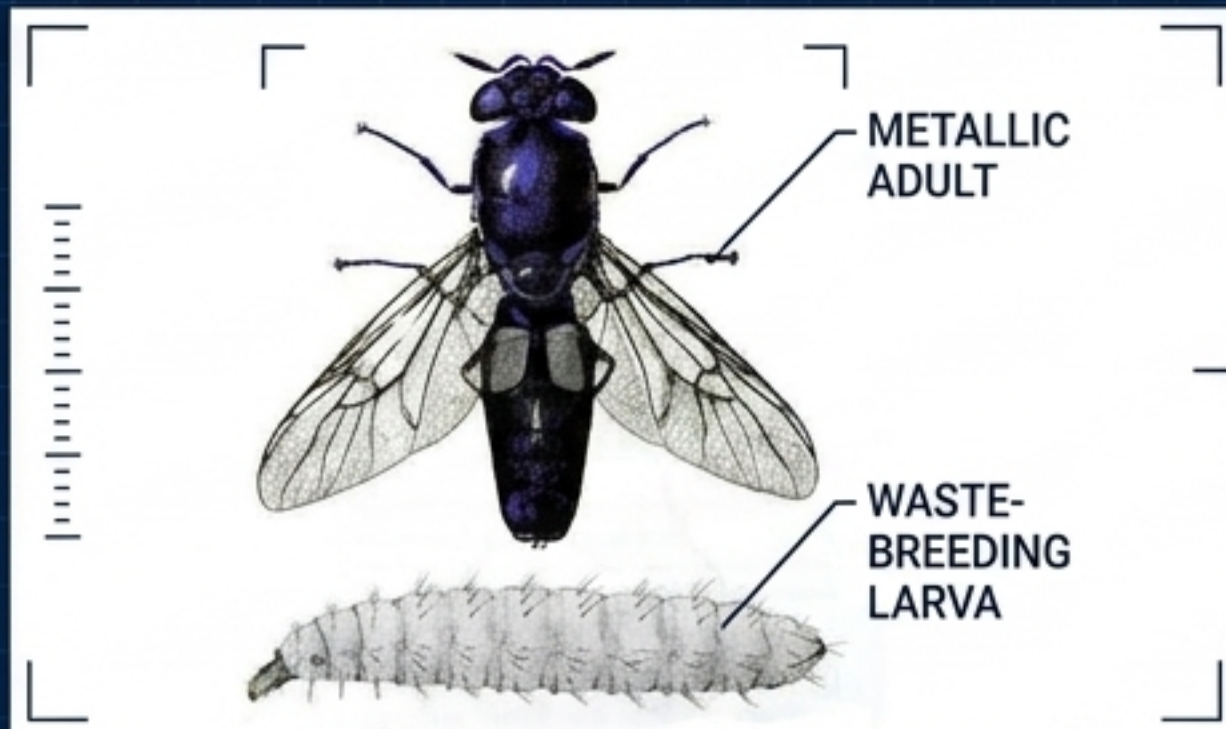
CONTROL:
Treat soil, discard infested plants, or
reduce watering.



BREEDING SITE:
POTTED PLANTS



SOLDIER FLY



HABITAT & THREAT:
Adults rarely a pest. Larvae breed in
waste, compost, and carrion.

STATUS:
Occasional household pest.

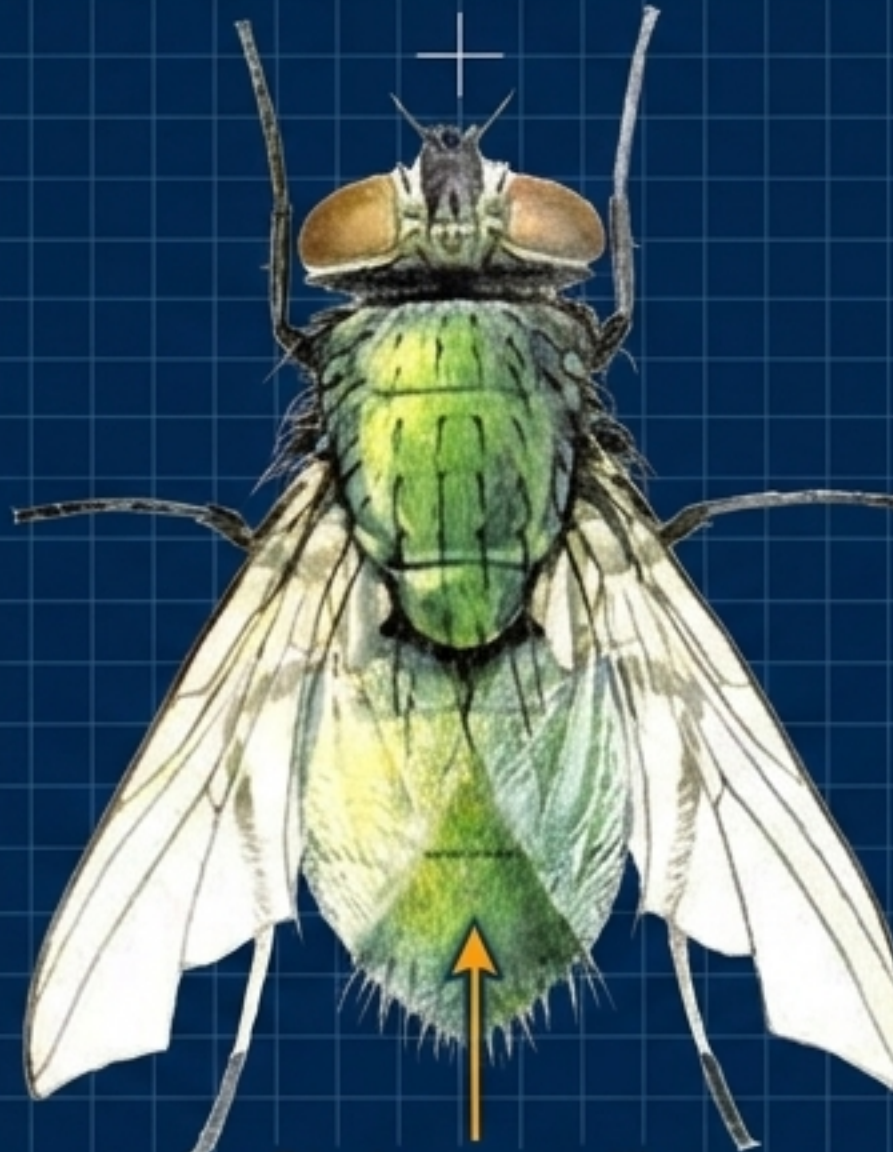
CARRION BREEDERS

(Note: Phorid and Soldier flies are also noted as carrion breeders).

BLACK BLOW FLY

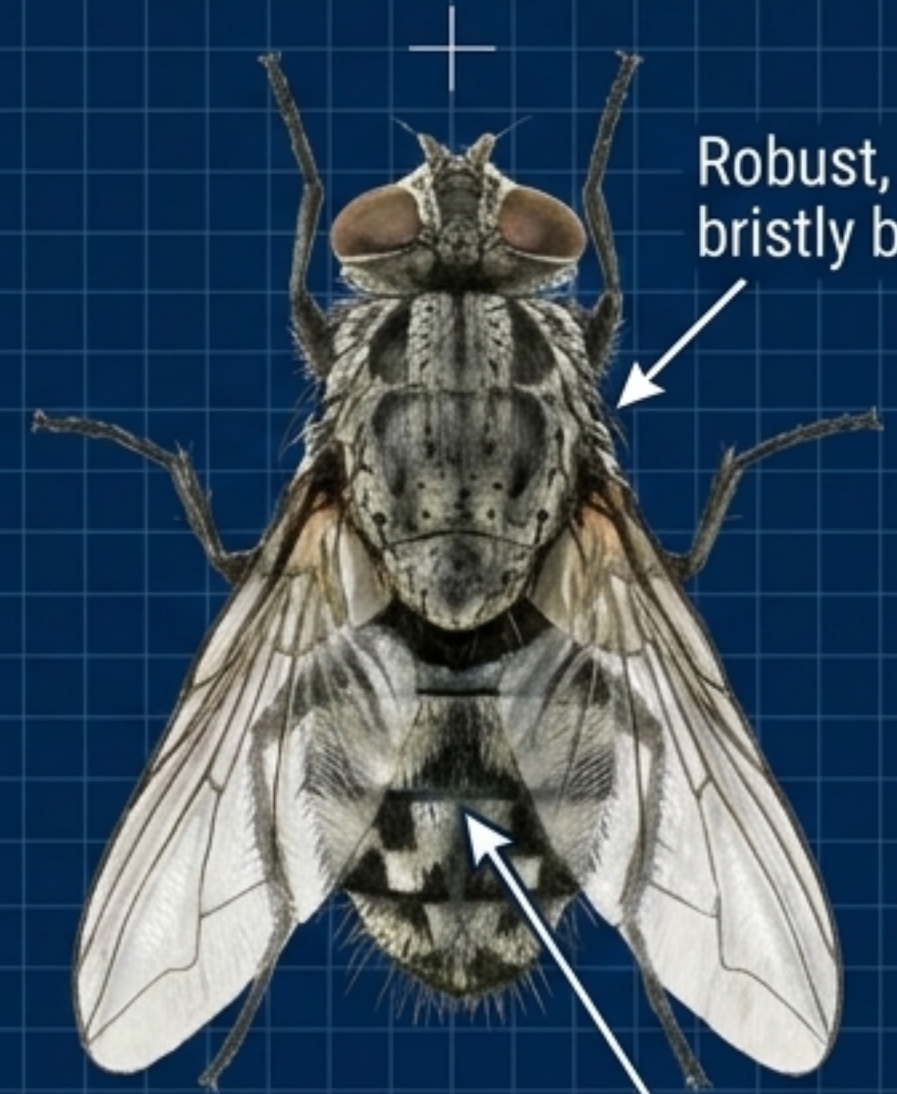


GREEN BLOW FLY



Distinct metallic green coloration

FLESH FLY



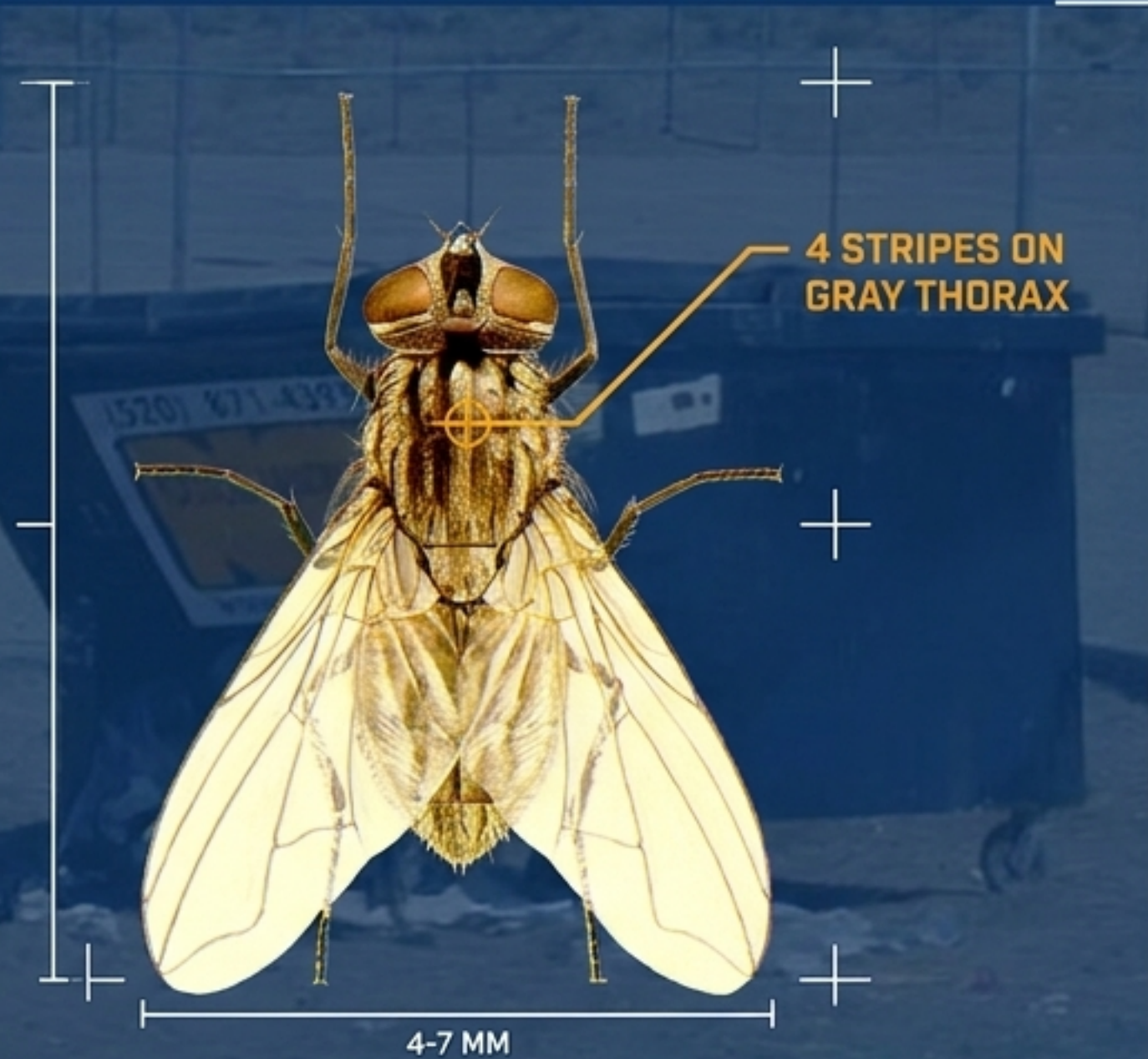
Robust, bristly body

Distinct striped/checkered patterns

DIAGNOSTIC NOTE: The wandering 3rd-instar larva is usually the first visible sign of a hidden carcass (e.g., dead rodent in a wall void).

THE FILTH FLIES MATRIX

HOUSE FLY (*MUSCA DOMESTICA*)

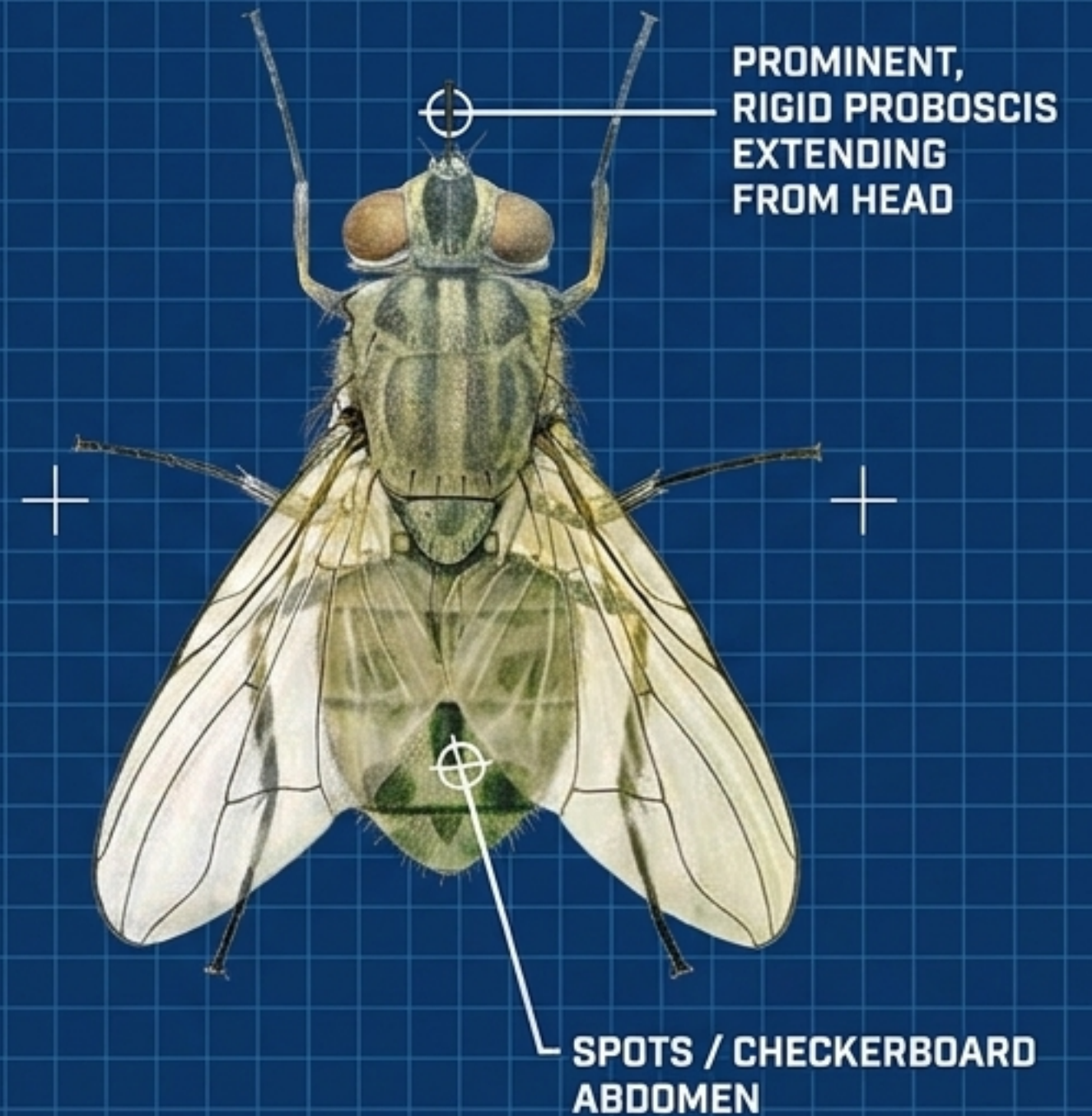


SIZE: 4-7 MM.

HABITAT: FILTH BREEDER (MANURE, GARBAGE). COMMON PEST OF KITCHENS/RESTAURANTS WITH FREQUENTLY OPENING DOORS.

THREAT: HARBORS OVER 100 DIFFERENT PATHOGENS.

STABLE FLY



OUTDOOR INVADERS

THE STRUCTURAL INVADER: CLUSTER FLY (*Pollenia rudis*)



GOLDEN HAIRS COVERING
THE THORAX



THE HARMLESS GIANT: CRANE FLY



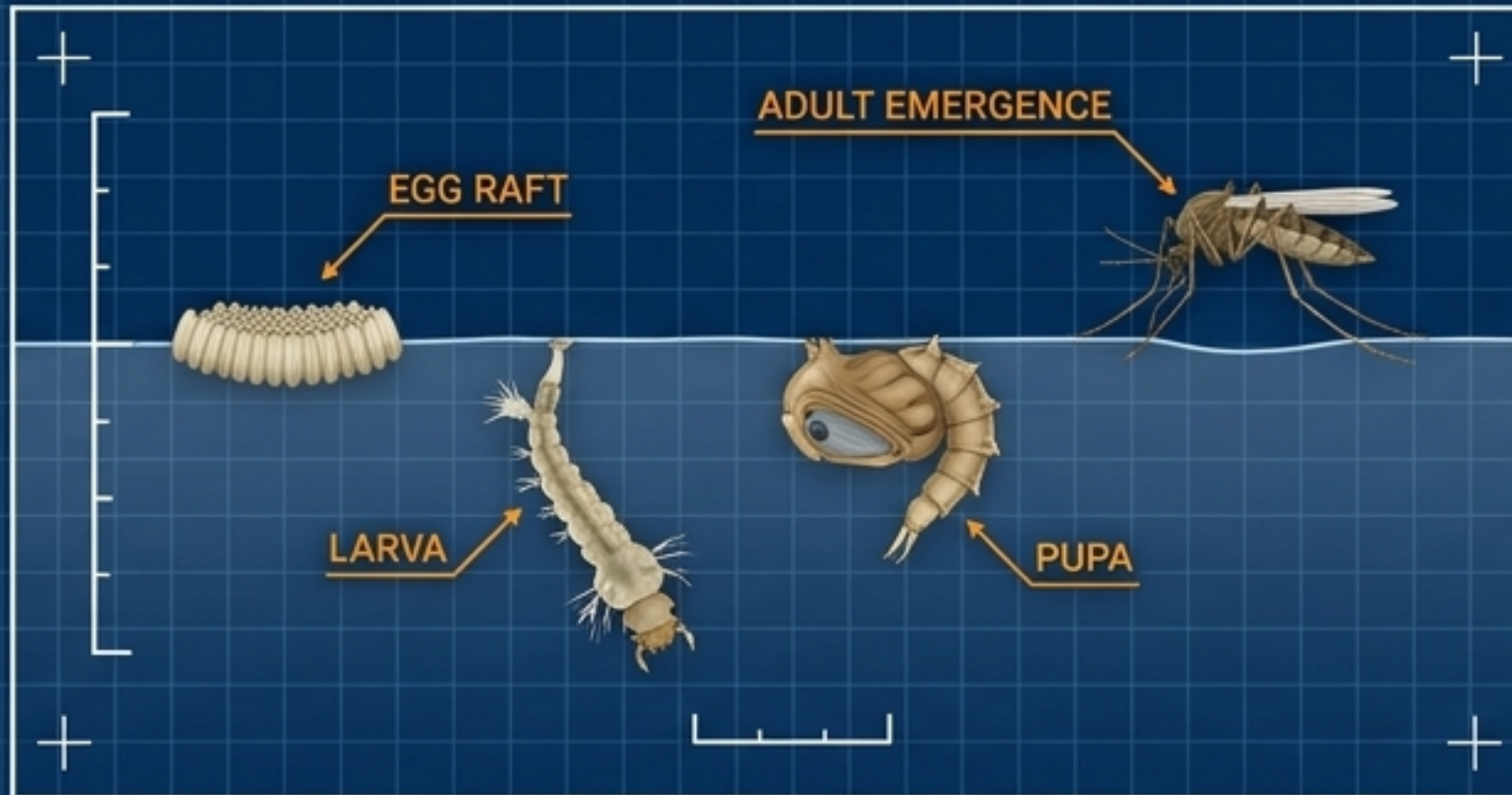
PROFILE: Harmless, seasonal insect. No control necessary. Do not mistake for massive mosquitoes.

PROFILE: Parasite of earthworms. Slightly larger/darker than a housefly.

BEHAVIOR: Occasional fall structure invader (except in the South). Forms overwintering clusters in attics and walls.

CONTROL: Exclusion, wall-void treatment, vacuuming.

THE APEX VECTOR: MOSQUITOES



BIOLOGICAL PROFILE

- Aquatic-breeders requiring stagnant, often polluted water.
- Active mostly in evenings and at night.
- Adults rest in shady areas during the day.

SEVERE THREAT WARNING:

- West Nile Virus
- Encephalitis
- Dog Heartworm

SUBURBAN VECTOR MAP: BREEDING HOTSPOTS



**DITCHES &
CATCH BASINS**

CLOGGED GUTTERS



**CHAIRS, TIRES,
BUCKETS, & CANS**

**UN-MAINTAINED
SWIMMING POOLS**

**HOLLOW
TREES**



**BIRD BATHS &
POTTED PLANT DISHES**

VECTOR CONTROL OPTIONS



STEP 1: SOURCE REDUCTION

Breeding site elimination (empty standing water, clear gutters, remove debris).



STEP 2: AREA TREATMENT

Deploy ULV fogging and utilize installed mister systems for perimeter control.



STEP 3: TARGETED APPLICATION

Resting site treatment with residual insecticides. Focus on shady daytime resting areas.



STEP 4: PERSONAL PROTECTION

Use of chemical repellents and physical barriers.

**CLASSIFIED
FIELD REPORT**

CASE FILE 01: THE OFFICE INVADER

THE REPORT

Office workers report being constantly bothered by pesky little “gnats” around their desks. The building has no commercial kitchen, and restrooms are aggressively sanitized daily.

THE DIAGNOSIS: DARK-WINGED FUNGUS GNAT

THE EVIDENCE

Fungus gnats are the most common fly in office environments. They are untethered to food or drains; their origin is almost always overwatered potted plants brought in by employees to their desks.

**CLASSIFIED
FIELD REPORT**

CASE FILE 02: THE LIVING ROOM MYSTERY

THE REPORT

A residential client reports finding small, wriggling worms on the carpet in the center of their living room, far from the kitchen or any trash receptacles.

THE DIAGNOSIS: Late-stage (Third-Instar) Carrion Fly Larva

THE EVIDENCE

The late larval stage of a carrion-feeding fly develops a wandering behavior just before pupation. This biological drive forces them out of hidden wall voids (where a dead rodent or bird is likely located) and into the living areas of a building where they suddenly become visible.