What you should know about Flies and Eye Gnats

**Flies and Eye Gnats**

Coaches Valley Mosquito and Vector Control District
43-420 Trader Place
Indio, CA 92201
(760) 342-8287 or (888) 343-9399

The Coachella Valley Mosquito and Vector Control District provides a limited fly and eye gnat control program known as “trapping out.” Thousands of traps with an egg-based attractant are placed in golf courses and agricultural areas.

Call the District at (760) 342-8287, visit online at www.cvmvcd.org, or visit their office located at 43-420 Trader Place, Indio, from 7:30 a.m. to 4:30 p.m.

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**How to Prevent and Control Flies and Eye Gnats**

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Another important step in fly management is to exclude them from the premises. Keep doors, windows and vents closed as much as practical, screen and seal around these and other fly entry points. Automatic door closing devices and air curtain that blow air away from doorways can be installed to supplement an integrated fly management program.

In addition to swatting, mechanical controls include trapping with sticky fly paper or ultraviolet light traps. The use of pesticides is usually NOT the best means of managing fly populations.

For eye gnats, removing decaying weeds, leaf litter, and grass clippings, or drying organic matter and compost piles before cultivation, will help prevent eye gnats from laying eggs in sandy, organic and moist soil.

- Dry and wrap organic waste before placing it in the garbage can.
- Seal garbage cans with tight-fitting lids
- Remove garbage at least 2 times per week
- Clean garbage containers and dumpsters with hot water frequently
- Keep garbage cans as far away from doors as possible.
- Keep exposed food covered
- Remove or compost grass clippings at two-week intervals
- Cover compost with tarp or thin out to dry
- Pick up and dispose of pet waste daily
- Screen windows and doors
- Use indoor fly traps or sticky tape to control flies indoors

**Breeding Habits**

Eggs are deposited by the female in all types of damp, sandy soil such as date gardens and citrus groves, crop fields, golf courses and flower beds. Each eye gnat may lay 32 to 42 eggs. In summer months, total development from egg to adult may take from 14 to 21 days.

Larvae develop from 10 to 15 days in hot summer and feed on decaying organic matter. Pupation occurs in the upper two inches of soil and takes 6 to 9 days. The pupa remains inactive while the adult develops within. Adults require sugar and water from plants; females seek mucosal proteins to continue the life cycle.

Adults are about 1/16 inch in length, shiny black to a dull gray color with yellow or orange markings on the legs.

Two population peaks are in late spring and in late summer or early fall. Daily activity peaks occur at sunrise and sunset during hot, dry weather, although eye gnat activity may occur in deep shade or on cloudy days. At night they rest at ground level or low shrubbery. Ideal temperature for activity is 90°F to 100°F degrees, preferring higher temperatures as humidity rises. Their activities decrease and reproduction ceases below 70 degrees.

**Who Should You Contact**

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Introduction

Flies and eye gnats are among California’s most prevalent nuisance pests, and are important to control because of their potential to spread disease to humans and animals.

The presence of a single pair of wings distinguishes true flies from other insects with “fly” in their name, such as mayflies, dragonflies, damselflies, stoneflies, whiteflies, and many more.

House flies and other types of “filth flies” often feed and lay eggs on garbage, manure and carrion before contaminating human foods and food preparation surfaces by landing on them. House flies are mechanical vectors known to carry diseases such as: typhoid fever, tuberculosis, anthrax, cholera, diarrhea, and dysentery.

Eye gnats, prevalent in dry climates, have been a persistent problem to the Coachella Valley since agriculture was introduced. Primarily, they are a nuisance pest, and do not bite. Eye gnats can act as mechanical vectors and spread infectious diseases to humans such as conjunctivitis, commonly called “pink eye”, and yaws (a bacterial infection affecting skin, bones and joints). They have been linked with the spread of bovine mastitis in North America.

Flies and Mankind

Many species of flies have affected humans and their welfare for thousands of years. Some flies suck blood, others are scavengers. Many mechanically transmit diseases, some are pests of cultivated plants, some live at the expenses of other insects or animals, while others aid in the pollination of plants. They are reared in large numbers in Japan to serve as pollinators of sunflowers in greenhouses, especially the maggots of various species.

House Fly (Musca domestica)

One of the most common insects worldwide, house flies can become pests in every setting: homes, barns, farms, food processing plants, food establishments and recreation areas. Their tremendous breeding potential can, during warmer months, produce a generation in less than two weeks.

House flies are usually scavengers with a four stage life cycle of egg, larvae (maggot), pupa, and adult stage. Their life cycle can take 6 to 10 days with an average life span of 30 days.

Adult house flies are dull gray in color with reddish brown stripes down the middle section of their body (thorax). Females are usually larger than males. Flies are inactive at temperatures below 45F degrees and usually die at temperatures below 32F degrees. Optimum activity occurs between 80F and 90F degrees with humidity around 40 percent.

House flies have sponge like mouthparts. When feeding, they regurgitate their stomach contents onto food to liquefy it before ingesting it. In addition, they may contaminate food and surfaces by defecating on them. Light colored spots called fly specks are visible signs of feeding; dark fly specks are fecal spots.

House flies are generally abundant in the immediate vicinity of their breeding site, but can become widely distributed by flying, or being carried on wind currents, vehicles and animals.

**Breeding Habits**

House fly eggs are laid in almost any type of warm organic material including: animal or poultry manure, fermenting vegetation, and garbage. The whitish eggs, laid in clusters of 75 – 100, hatch within 24 hours into tiny larvae or maggots (soft, cream-colored and worm-like).

In 4 to 6 days the larvae migrate to drier portions of the breeding medium and pupate. The pupa stage may vary in length, but in warm weather can be about 3 days. When the adult emerges from the pupae, the wings are folded in tight pads. For about an hour, the housefly crawls about rapidly while the wings unfold and the body dries and hardens. Mating occurs immediately.

Blow Fly (Calliphoridae spp.)

Blow flies get their name because the larvae develop inside the bodies of dead animals, causing the carrion to have a bloated appearance. The adult is about 1/2 inch in length with shiny metallic green-bronze abdomen and thorax. They have been called “bottle flies” because their shiny blue and green colors resemble colored glass bottles, though some species are shiny black or bronze. Large numbers of these flies indoors, usually indicates the presence of a dead animal such as a mouse or bird inside the structure. However, blow flies are strong fliers and can range many miles from breeding places.

**Breeding Habits**

Eggs may be deposited in decaying vegetable and animal matter including: compost piles, grass clippings, damp feed pellets, fertilizer, and food residue in garbage cans and may hatch in two days.

Eye Gnat (Hippelates collusor)

Adult eye gnats are non-biting insects, but their persistent buzzing around the head and eyes classifies them as a nuisance. Female eye gnats need proteins...