

ARE YOU RAISING Mosquitoes IN YOUR BACKYARD?

HERE IS A CHECKLIST

- Ornamental Pond
- Swimming Pool
- Plastic Wading Pool
- Boat
- Animal Watering Trough
- Other Kinds of Containers
- Other Standing Water

AN INDEPENDENT
SPECIAL DISTRICT
WORKING FOR YOU!

MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

A vector is any insect or other arthropod, rodent, or other animal of public health significance capable of transmitting disease or causing illness or discomfort to humans, pets, or livestock.

Call the Mosquito and Vector Management District:

1. If you are bothered by mosquitoes, a certified Vector Control Technician will investigate and lend assistance.
2. If you need help to prevent or control mosquito breeding in your backyard, a technician will inspect your yard and assist you.
3. If you have an ornamental pond, unused swimming pool, or an animal drinking trough, Mosquito Fish will be furnished without charge.



MOSQUITO and VECTOR MANAGEMENT DISTRICT of Santa Barbara County

OFFICE: 2450 Lillie Ave.
MAIL: P.O. Box 1389
Summerland, CA 93067

E-MAIL: mvmddistrict@mvmddistrict.org

Telephone: (805) 969-5050

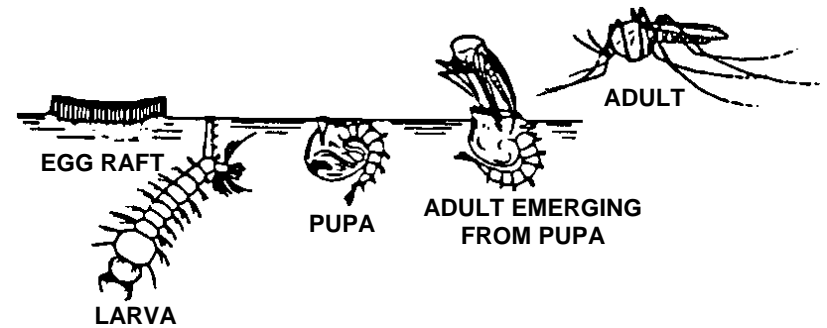
For more information on mosquitoes and other vectors
visit the District's Public Information Website:

www.mvmddistrict.org

THE MOSQUITO LIFE CYCLE

FACTS ABOUT MOSQUITOES

1. All mosquitoes must have water in which to complete their lifecycle.
2. Only seven days are required to complete their lifecycle (egg to adult) during warm weather.
3. Mosquitoes do not develop in grass or shrubbery, although flying adults often rest in these areas during daylight hours.
4. Only the female mosquito bites to obtain a blood meal. The male feeds only on plant juices.
5. The female mosquito may live as long as three weeks during the summer or many months over the winter in order to lay her eggs in the following spring.



EGGS: The most common mosquitoes lay egg rafts that float on the water. Each raft contains from 100 to 400 eggs. Within a few days the eggs hatch into larvae.

LARVA: The larva or “wiggler” comes to the surface to breathe through a tube called a siphon. It sheds its skin or molts four times during the next several days. It grows rapidly between each molt. On the fourth molt it changes into a pupa.

PUPA: The pupa or “tumbler” cannot eat. It breathes through two tubes on its back. The adult mosquito grows inside the pupa and in two days or so, when it is fully developed, it splits the pupal skin and emerges to complete the life cycle or metamorphosis of the mosquito.

ADULT: The newly emerged adult rests on the surface of the water until it is strong enough to fly away and feed.

INSECTS THAT RESEMBLE MOSQUITOES

MOSQUITO

Characteristics

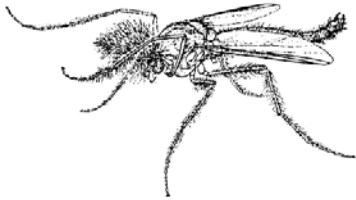
- Bites using its proboscis.
- Wings as long or longer than body.
- Always breeds in water.
- May carry disease.



CHIRONOMID MIDGE

Characteristics

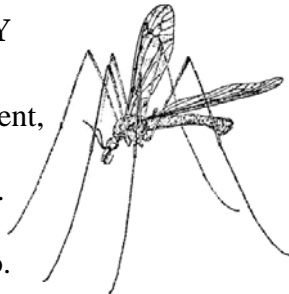
- Cannot bite (no proboscis).
- Develop in mud bottoms of lakes and ponds.
- Body longer than wings.
- About same size as mosquito.



CRANE FLY

Characteristics

- Cannot bite (proboscis, if present, unable to penetrate skin).
- Develop in moist soil or water.
- Fly very poorly.
- Usually larger than a mosquito.



FUNGUS GNAT

Characteristics

- Cannot bite (no proboscis).
- Develop in fungus or moist decaying vegetation.
- Have “spiny” legs.
- About same size as mosquito.



WHERE TO LOOK AND WHAT TO DO

ORNAMENTAL PONDS

Stock with Mosquito Fish. Add Goldfish for looks if desired. Avoid spraying with garden insect sprays. Remove leaves and thin out pond lillies. Keep water level up. Screen inlet of recirculation pump. Chlorine kills fish—transfer fish to a glass bowl or plastic bucket when cleaning pond. If pond is no longer desired, break holes in bottom and fill with dirt or sand.

CONCRETE OR PLASTIC SWIMMING POOLS

Operate filter and skimmer everyday to remove egg rafts and larvae. Provide drainage for filter and pump sumps. Chlorine will NOT kill mosquito larvae. If pool is used, keep it tightly sealed. Remove rainwater from top of pool cover. Stock unused or “out of order” pools with Mosquito Fish.

BOATS

Prevent accumulation of bilge water. Store small boats upside down or cover to keep out the rain and water from sprinklers.

ANIMAL WATER TROUGHS

Stock large troughs with Mosquito Fish. Clean small troughs every week.

OTHER KINDS OF CONTAINERS

Remove and dispose of all unused containers that will collect rain or water from sprinklers.

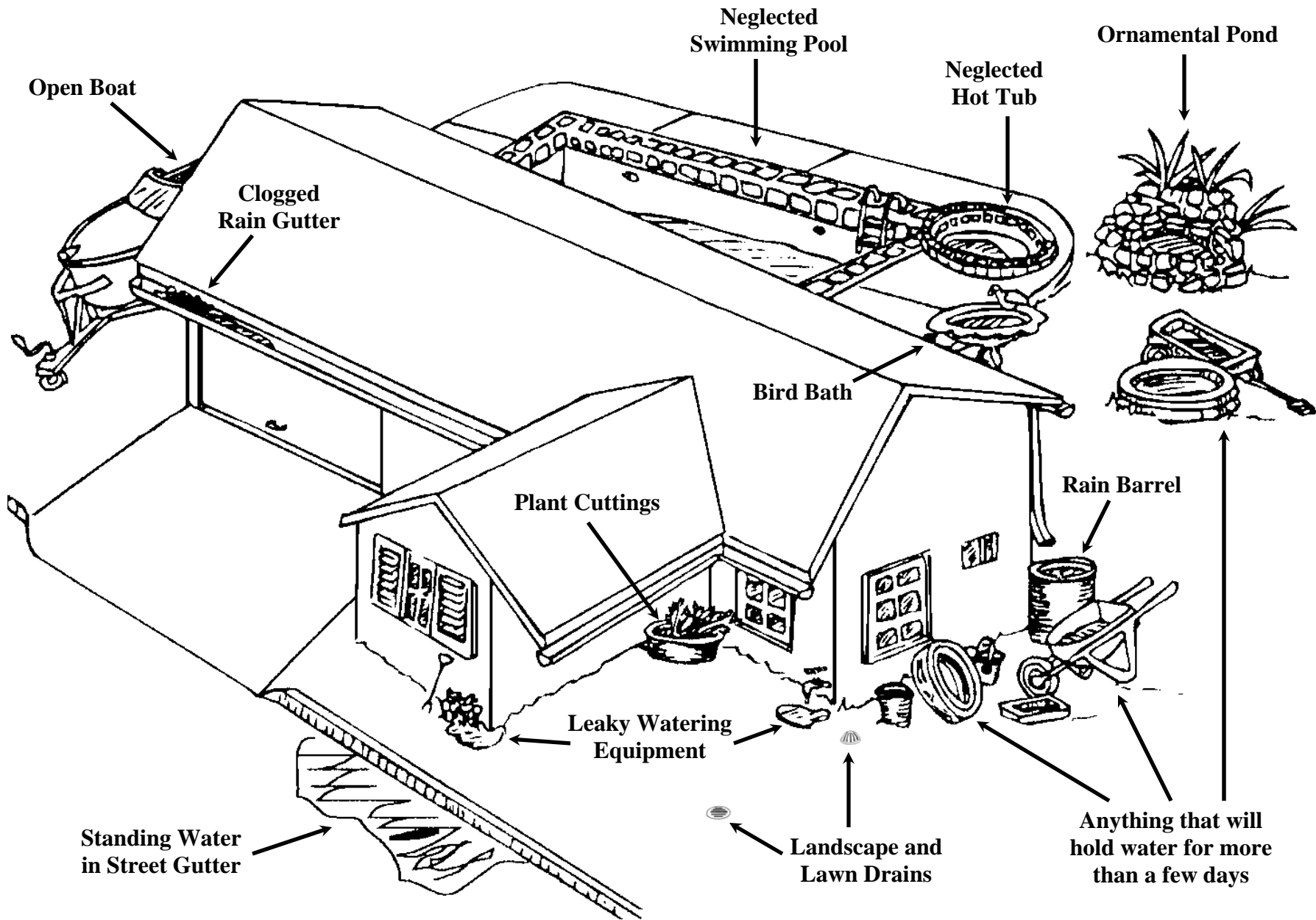
Cans
Jars
Barrels

Old Tires
Buckets
Tubs, etc.

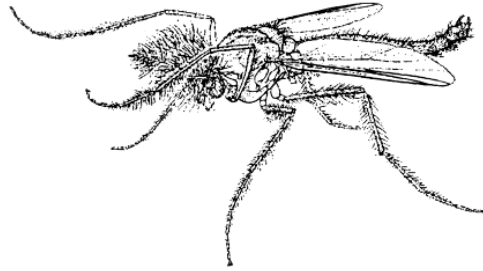
Home gardeners rooting plant cuttings in vases, buckets, etc. should change water every week.

Usable containers should be stored upside down.

COMMON BACKYARD MOSQUITO BREEDING SOURCES



MIDGES



Chironomid Midge

Chironomid Midges cannot bite and are not harmful to public health. They can be a nuisance because they develop in great numbers. They gather in swarms and when at rest they cover screen doors, windows, and walls. They look much like a mosquito, and develop in the same water where mosquitoes develop. On a closer look, however, the midge:

1. Does not have biting mouthparts (proboscis).
2. Has a body (abdomen) that is longer than the wings.

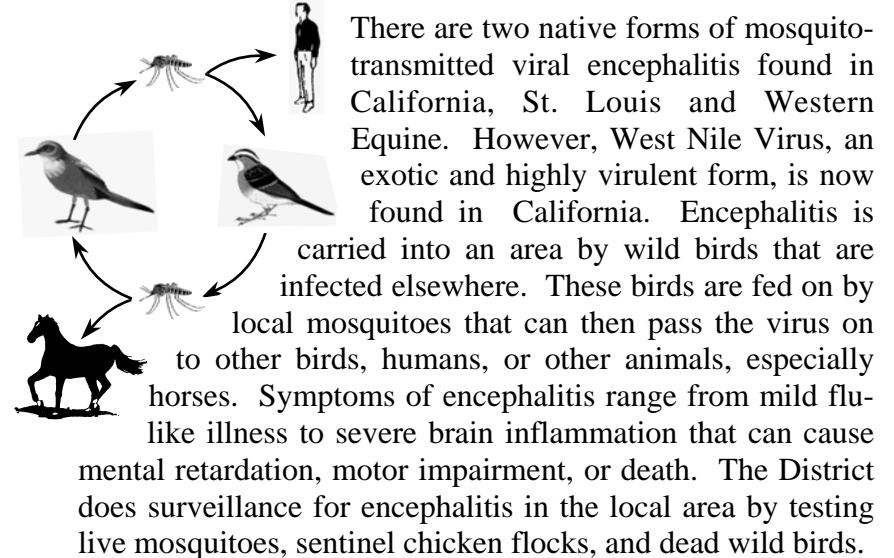
WE DO EVERYTHING WE CAN TO PREVENT THE DEVELOPMENT OF ADULT MIDGES

Control of midge larvae is much more difficult than the control of mosquito larvae because the midge larvae live in the bottom mud and are much less vulnerable to our mosquito insecticides as well as to Mosquito Fish. Satisfactory control currently depends on continuing studies and research on new insecticide formulations and other possible control methods.

MOSQUITO-BORNE DISEASE

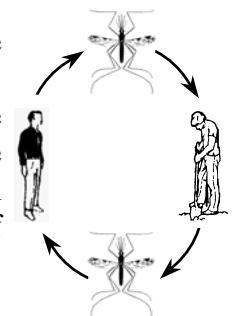
Many of the 52 known species of mosquitoes in California can carry disease under the right conditions. When a female mosquito takes an animal blood meal, which she uses as nourishment for her developing eggs, she may transmit certain disease causing organisms to humans and other animals. These organisms are taken with blood from infected humans and other animals. The mosquito completes the cycle when she bites the next susceptible host, causing infection. The most important diseases are Encephalitis, Malaria, and Dog Heartworm.

ENCEPHALITIS AND WEST NILE VIRUS



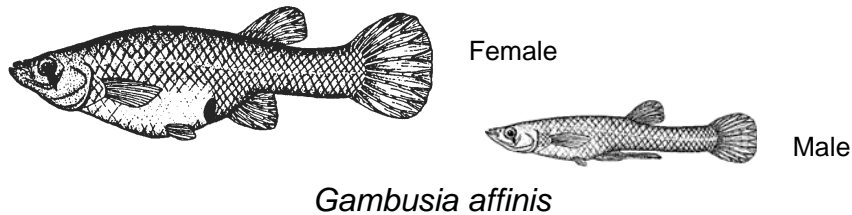
MALARIA

Malaria is much less likely to occur in California due to the necessity for human reservoirs of the disease. *Anopheles* mosquitoes, the vectors of Malaria, are found in many areas of California, and there have been isolated instances where human reservoirs from other countries temporarily provided a source of Malaria infection to local residents.



FISH PREVENT MOSQUITOES

Gambusia affinis, called “Mosquito Fish” are indispensable to our mosquito control program. They eat mosquito larvae as fast as they hatch from the eggs. **Mosquito Fish are furnished to residents of the District’s enhanced service areas without charge** for stocking ornamental ponds, unused or “out-of-order” swimming pools, and animal watering troughs. They require little or no feeding and care is limited to protecting them from garden sprays and from chlorine or other chemicals used to clean the pond. We also stock thousands of these fish each year in artificial lakes, reservoirs, waste water disposal lagoons, creeks, and drainage channels to eliminate the need for frequent spraying with mosquito insecticides. Mosquito Fish should **NOT** be introduced into natural lakes, ponds, rivers, and streams without consulting the Mosquito and Vector Management District and/or wildlife authorities because Mosquito Fish may compete with native fishes and other wildlife and have adverse impacts upon them.



MOSQUITO FISH FACTS

Mosquito Fish do not lay eggs, but rather give birth to well developed and very active young. These fish, therefore, require no special environment, as most other fish do, for depositing and hatching the eggs. They breed throughout the summer and new broods are produced at intervals of about six weeks, with 50 to 100 young in a single brood. The young are approximately 3/8 inch in length when born. They are ready to begin the work of destroying mosquito larvae at once. *Gambusia* grow rapidly, females reaching a maximum size of about three inches. The earliest broods of the season, born in April and May, become sexually mature and produce young when six to eight weeks old.

WHAT WE DO TO CONTROL MOSQUITOES

OBJECTIVES

The objectives of our program are to abate existing mosquito breeding sources and to prevent the creation of new ones in order to permit full use and enjoyment of our backyards and our many recreational facilities, to permit mosquito free agricultural and industrial working conditions, and to protect public health and comfort.

PROPERTY OWNERS RESPONSIBILITY

The owner of a property on which a breeding nuisance is located is responsible for the abatement of the nuisance and for the prevention of its recurrence. We inform the property owner of the mosquito breeding and assist him/her in working out a satisfactory correction. In extreme cases, where the owner does not accept his/her responsibility to the public, the nuisance may be abated and a lien filed against the property as provided by the California Health and Safety Code.

BREEDING SOURCES WE CONTROL

Chronic breeding sources created by standing water in coastal wetlands, street catch basins, subdivision drains, roadside ditches, flood control channels, ravines and similar places on public and private land are controlled by routine larviciding operations throughout the year as necessary. We work with city, county, state, and federal agencies, as well as private landowners, toward permanent correction of these sources.