

# Chironomid Midges

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**MidgeX™**



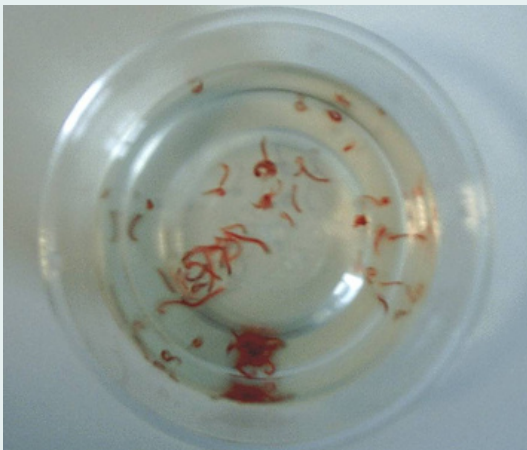
\$12.00

MX001  
MidgeX 10ml



\$36.00

MX002  
MidgeX Plus 30g



BEFORE



AFTER

## MidgeX

The only natural bio-control of midge larvae in aquarium and pond filtration.

# Chironomid Midges



## INTRODUCTION

Many people experience swarms of flying insects around their koi pond or aquarium tanks, especially in the immediate vicinity of the filter chambers. **These insects are known as MIDGES.** The most common midges people complain about are non-biting nuisance pests belonging to the family Chironomidae. People often refer to them as "gnats" or "fuzzy bills". Chironomid midges are similar in appearance to mosquitoes, but they do not bite. Midges have plumose antennae that resemble a small feather. They are very small--none larger than 1/8-inch long. The adult midge may be a variety of colours from dark brown to green.

## BIOLOGY

Midge populations are dependent on water. The midge larval stage is also aquatic. The adult females lay eggs in masses. They hatch in several days, and the young larvae drop to the bottom, where they build tube-like structures of bottom debris held together by strands of silk. **Larvae are scavengers and feed on the organic matter and bottom debris in the water, particularly algae.** Pond filters not properly maintained or regularly flushed are good breeding sites as they provide food for the larvae. An interesting fact is that the blood of some midge larvae (called **bloodworms**) is red, unlike the blood of most other insects. It is red because it contains hemoglobin, which binds tightly to oxygen.



This is necessary because of the stagnant, low-oxygen conditions that may be present where these larvae live. Typically, male midges swarm in large numbers at dusk. Mating occurs when females enter the swarm. Under favorable conditions, they are larvae for about four weeks, and then they pupate for several days. Just before emergence, the pupa rises to the water surface, emerging from the water surface. Midge Larvae are very beneficial because they serve as food for fish. During their swarming activities, adults may be attracted to lights. This causes much concern as midges may enter houses and buildings and become a nuisance to occupants. Neighbours may also feel insecure as they mistake midges for mosquitoes, thus causing unnecessary alarm in the neighbourhood. In the Lake Suwa area (Japan), it was deduced that the chironomids, along with the mite and the silkworm, are an important cause of asthma.

## CONTROL

Avoid the use of unnecessary lights around dusk when midges swarm. If midges are entering the house, make sure that vent openings and other entry points are sealed. Flush and drain pond filters regularly to minimise the number of midges. Totally eradicating them through this method is not possible, as larvae use their silk to anchor themselves permanently in their positions. Introducing small fish to the filter chamber is another good idea, although some larvae may be hidden at the bottom of the chamber, not accessible to the fish. Short of applying insecticides and other chemicals directly to your pond or aquarium filters, there is no way of effectively controlling the midge population, i.e., until now....

# Chironomid Midges

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*MidgeX*<sup>™</sup>



Adult Midge

## MIDGEX

**MidgeX** is a new and effective way of controlling the Midge population.

Using a special formulation for midges, **MidgeX** uses crystals of protein and a naturally occurring bacillus bacterial strain to control the midge population. In other words, it is the only natural bio-control product of midge larvae. It is safe and non-harmful to non-targeted animals and aquatic creatures. This cannot be said for insecticides and chemicals.

**MidgeX** is introduced directly into the pond and is best applied near the inlet of the filter. **MidgeX** pass quickly through the water and are consumed by the midge larvae. It will disrupt the feeding function of larvae and eventually starve them to death. This effect is usually noted within 12 hours.

However, **MidgeX** is only harmful to midges at the larval stage, less so at the pupal stage and not harmful to adult midges. As such, **MidgeX** should be used continuously for at least 4 weeks (once a week) to totally eradicate the midge population.

Regular use of **MidgeX** will effectively control midge population. MidgeX is not harmful to all fish, amphibians, and other non-target aquatic animals, and there is no known side effect.

Try **MidgeX** today and say goodbye to Midges The Natural Way!!



Adult Midge

# Chironomid Midges



## **DIRECTIONS FOR USE**

**< 5,000 L – 2 drops/1000 L for small ponds**

**> 5,000 L – 5 drops/1000 L for big ponds**

Double the dosage for serious cases or when using for the first week.

For best results, mix MidgeX in a container with pond water. Stop the filter system from running for at least half an hour. Apply to the filter chambers, especially the first two chambers.

Use in the evening time

Apply twice a week

No danger of overdosing

Not harmful to non-targeted aquatic animals.

Safe for koi and other aquarium fish.

## **CONTROL**

Do not reuse the container. Keep out of reach of children. Avoid contact with eyes and skin. Seek medical treatment immediately if the product is swallowed.

Keep in a cool, ventilated, and dry place.

Store below 35°C. Keep refrigerated for longer shelf life.