

GUIDELINES

FUNGUS BLACK GNATS- COMMONLY KNOWN AS MOSQUITO LIKE INSECTS



(Above picture sent from Praslin)

INTRODUCTION

Fungus Gnats are one of the most common and most abundant organisms in natural and man-made aquatic habitats.

These gnats are commonly known as “blind mosquitoes” because they are mosquito-like. In urban environments where buildings which include houses as well as other commercial buildings including tourism establishments are constructed adjacent to aquatic areas i.e. rivers ponds, marshes etc.. Adult gnats often emerge in extremely large numbers, causing a

variety of nuisance and other problems for people who reside within the flight range of these insects

Many natural or artificial aquatic habitats that produce nuisance populations of gnats have homes and businesses constructed along the shore lines. After emergence, gnat adults are attracted to lights. They may accumulate in large numbers inside buildings around household and street lights.

During emergence periods, it is not unusual for several thousand adults to emerge on a nightly basis. Needless to say, gnats emerging from these bodies of water may cause severe nuisance and other economic problems.

GUIDELINES FOR CONTROL MEASURES

Physical and Cultural

- **Nutrient reduction:** Dense larval populations usually occur in nutrient rich habitats. Fertilizer run-off from residential lawns and garden, golf courses and agricultural fields are sometimes responsible for the development of nuisance populations of gnats. Community awareness and education about proper use of fertilizers can avoid excess run-off into lakes, ponds and streams and can help reduce gnats' populations.
- **Diversion of adults.** Avoid outdoor and bright lighting near open windows. Gnats are attracted to light and would be more likely to come in a window by a light. High intensity white light has been found to be highly attractive to adults. Keep window blinds closed and porch light off during heavy emergence periods to help reduce the number of adults attracted to residences. Strategically placed high intensity white lights may divert gnats away from populated areas.
- **Electrocution traps:** Electrocuter traps will attract and kill large numbers of midge adults. It is doubtful that a single electrocutor trap could kill a sufficient number of gnats adults to appreciably reduce nuisance populations.
- **Other lighting Issues:** Reduce or eliminate exterior lighting at night around the building if possible. Close window shades. Use subdued walkway/landscape type lighting. Do not switch on floodlights except when needed.
- **Where adults are a nuisance,** it may be possible to reduce the problem by using sticky traps available at retail garden shops. Yellow sticky traps can be cut into smaller squares, attached to wooden skewers or sticks and placed in pots to trap adults
- **Larvae:** Raw potato chunks placed in the soil are very attractive to the larvae of the gnats. These may be used not only to check pots for larvae but also to trap them away from plant roots. After a few days in a pot, remove infested chunks, dispose of them, and replace with fresh ones.

- Water and Soil Management: The gnats (mosquito-like little black insects) thrive in moist conditions, especially where there is an abundance of decaying vegetation and fungi,
- Avoid overwatering and provide good drainage and allow the surface of container soil to dry between watering. Clean up standing water, and eliminate any plumbing or irrigation system leaks.
- Moist and decomposing grass clippings, compost, organic fertilizers, and mulches are also favourite breeding spots. Avoid using incompletely-composted organic matter in potting media unless it is pasteurized first, because it will often be infested with the gnats (Mosquito-like black little insects) e.g. increase the proportion of perlite or sand in the mix). Minimize organic debris around buildings and crops.

Biological

- Gnats are fed upon by a large variety of aquatic organisms, such as dragon fly nymphs, predaceous diving beetles and a variety of fish species. Where the diversity of predaceous animals is high, the density of gnats larvae is usually held below nuisance population levels.
- Predatory fish: Fungus gnats are a major component of the diet of many fish species. However, the feeding of these fishes has, generally, not been shown to reduce adult gnat populations below nuisance levels adjacent to habitats where there were large larval populations.

Insecticidal

- Anti-larval chemical insecticides can be applied against aquatic gnat larvae in standing water habitats. **Application of chemical insecticides against the gnat larvae should be regarded as a temporary method to avoid development of resistance and other serious environmental impacts.**
- The biological larvicide, Bacillus thuringiensis var. israelensis (Bt.i), can also be effective against fungus gnat larvae.
- The insect growth regulator methoprene (Strike) can be used in wastewater treatment facilities to control gnats.
- Several insecticides that are used for the control of adult mosquitoes are also effective for application against fungus gnats adults. The use of insecticides against adults should be expected to achieve temporary control during heavy emergence periods, because treated areas are rapidly repopulated by gnats flying in from outside the treatment zone.

ADVICE

Management of tourism establishments are advised to liaise with their contracted pest control company to assist with control measures indicated above.

In case the pest controllers need further guidance they should contact the following agency:

National Biosecurity Agency, Ministry of Agriculture and Fisheries Tel: - 4324000

E-mail: enquiry@nba.gov.sc