

Understanding Black Fungus Gnats in Seychelles

And Their Effective Treatment & Control

presented by



EXCLUSIVE
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Initial

Introduction

- Family: Sciaridae
- Genus: *Pseudolykoriella* spp.
- First appeared in large numbers in 2015 (no reports prior to this)
- Fungus gnats thrive under moist conditions.
- Species is all female and reproduces parthenogenetically.

Fungus Gnat - Description

- Fungus gnats are small flies that infest soil, potting mix, other container media, and other sources of organic decomposition.
- Adults are dark, delicate-looking flies similar in appearance to mosquitoes.
- Although weak flyers, adults are attracted to light.
- Their larvae primarily feed on fungi and organic matter in soil

Egg

Duration: 4-6 days

- Tiny eggs are laid in moist organic debris or soil. The yellowish white eggs are approximately 0.2 mm long and 0.1 mm wide.



Larva

Duration: 12-14 days

- Larvae have a shiny black head and an elongated, whitish-to-clear, legless body.
- They go through 4 instars and are about 5.5 mm long when mature.



Pupa

Duration: 3-6 days

- Initially white. pupae become dark shortly before the adult emerges.



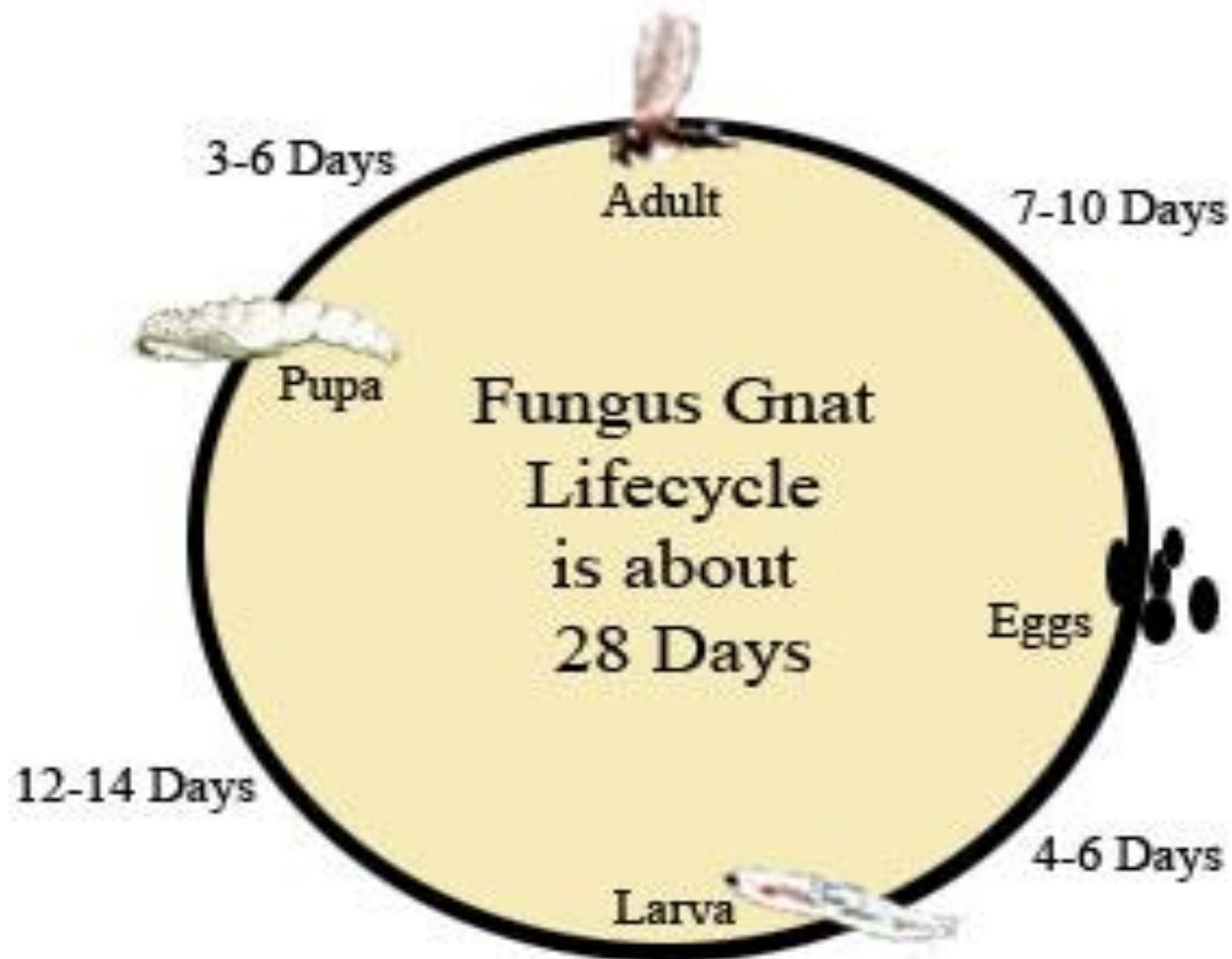
Adult

Duration: 7-10 days

- Adults are slender with comparatively long legs and antennae. They are greyish-black and about 2.5 mm long.
- Adult females lay 100-200 eggs.



Life cycle ~ 28 days



Management Options

- Most of the fungus gnat's life is spent as a larva and pupa in organic matter or soil, so the most effective control methods target these immature stages rather than attempting to directly control the mobile, short-lived adults.
- Integrated Pest Management (IPM) is recommended.

Monitoring and Trapping

- High intensity white lights as well as the colour yellow has been found to be very attractive to adults.
- Place sticky traps in strategic locations and combine with lights for maximum efficiency.



Sanitation and Hygiene

- Attempt to remove all fallen leaves and any other organic debris.
- Trim hedges and vegetation (or reduce their density) to increase air circulation for a drying effect.



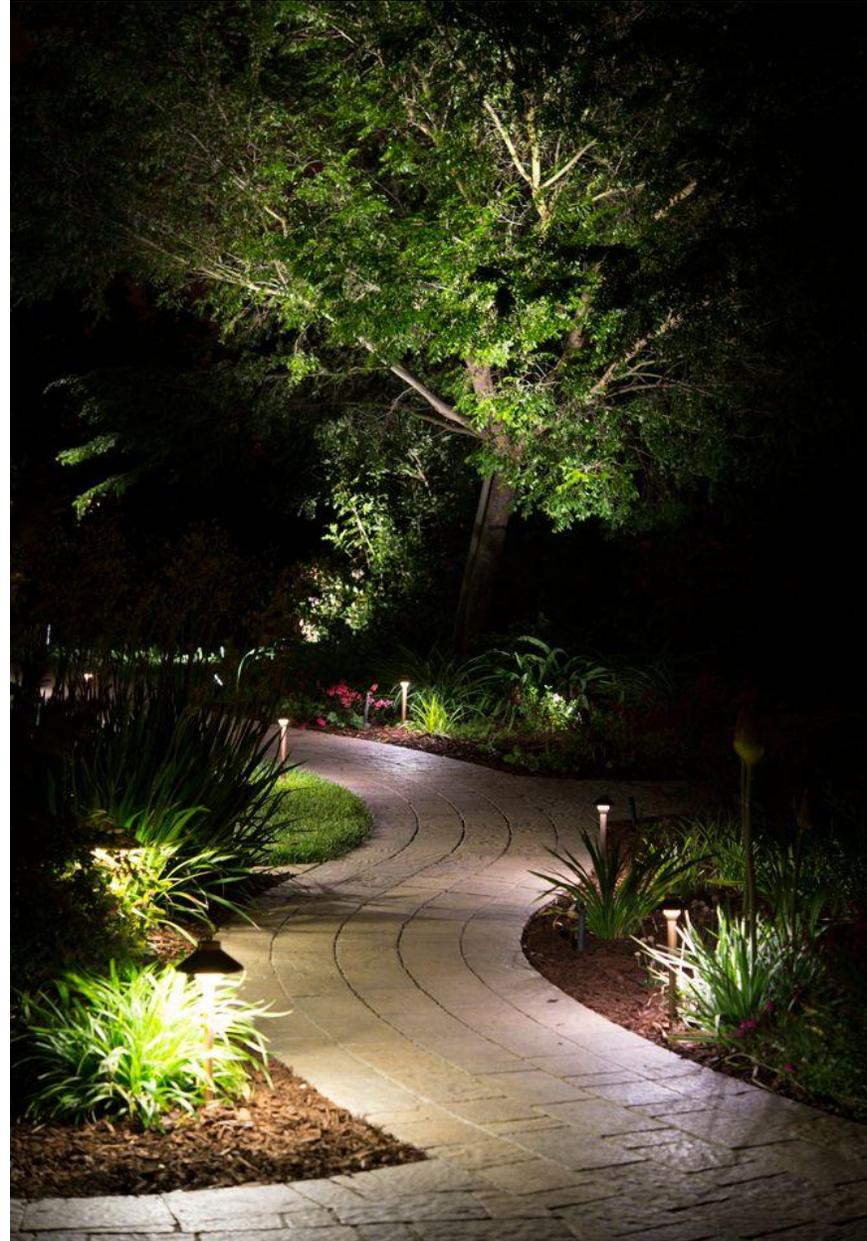
Water Management

- Cover up wet/moist areas with dry sand and fix any leaking pipes or hoses.
- Allow the surface of container soil to dry between waterings.



Physical Control

- Keep window blinds closed and porch lights off or dimmed to reduce the number of gnats being attracted toward the rooms.
- Strategically placed lights can divert gnats away from guests/staff



Electric Insect Killing Devices

- Electric fly zappers to kill adults inside. This option would only be effective to control a small number of gnats which have escaped the other control measures.



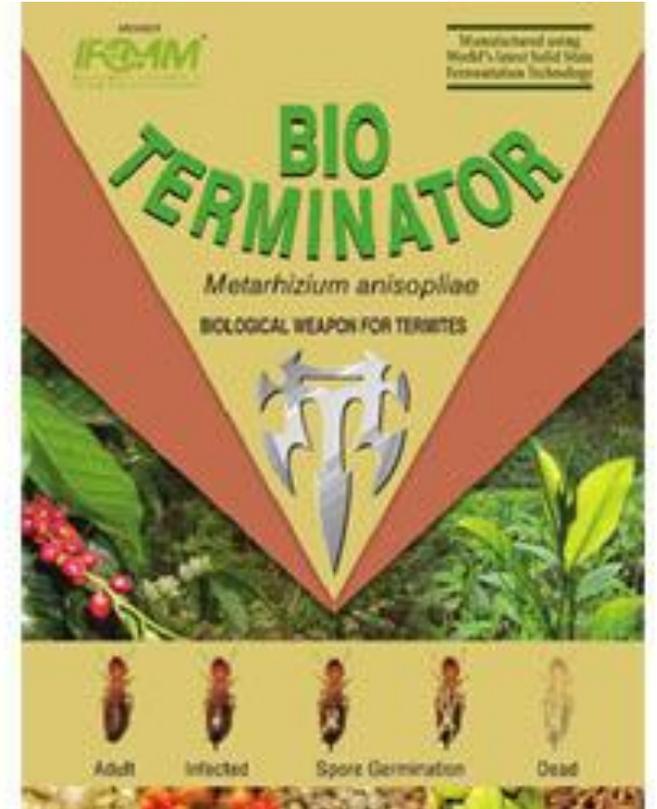
Biological Control

- *Bacillus thuringiensis* (Bt) var. *israelensis* is a naturally-occurring bacteria that specifically kills fungus gnat larvae.
- It is most effective when applied as a drench.



Biological Control

- *Metarhizium anisopliae* is a widely distributed soil-inhabiting fungus and is sold under various brand names.
- Use against adult gnats



Chemical Control

- Avoid the use of synthetic pesticides in order to conserve natural enemies and parasitoids.
- Can be used for spot spraying in cases of heavy infestations to give a temporary fast acting control but not as a long term solution.



Conclusion

- Physical and cultural management tactics are key to reducing fungus gnat problems.
- An IPM approach using a combination of methods that work better together than separately is the most effective, long-term way to manage pests while minimizing risks to people and the environment.

