



**Scottish Government**  
Riaghaltas na h-Alba



**SRUC**

**NOTIFIABLE PESTS**

## BEEKEEPING MODULES

These presentations are funded by the Scottish Government as part of Scotland's HoneyBee Health Strategy

## Aims of module

- To provide information and advice on notifiable pests of honey bees in Scotland





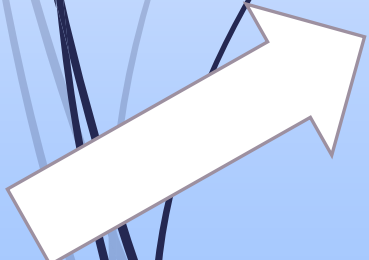
# Legislation

## The Bees Act 1980

- ▶ Empowers Ministers to make orders to control diseases and pests affecting honeybees and provides powers of entry for authorised persons (**to carry out necessary surveillance, inspection and certification requirements**).

## The Bees Diseases and Pest Control (Scotland) Order 2007 (as amended)

- ▶ Requires beekeepers (and others) to notify the Scottish Ministers of the suspicion of the presence of a notifiable **disease or pest**, and provides powers for control such as destruction, treatment and prevention of movement of infected hives.



# What is a notifiable pest of honeybees?

- ▶ Non-native and identified as potential to be invasive or damaging to honey bees.
- ▶ Lives on bees or in a honey bee colony
- ▶ Dependent on a bee/larva or colony to complete its lifecycle
- ▶ Can be moved with bees or bee products



# Notifiable pests in Scotland



Small Hive Beetle



Tropilaelaps

# Small Hive Beetle



# Small Hive Beetle

## *Aethina tumida*

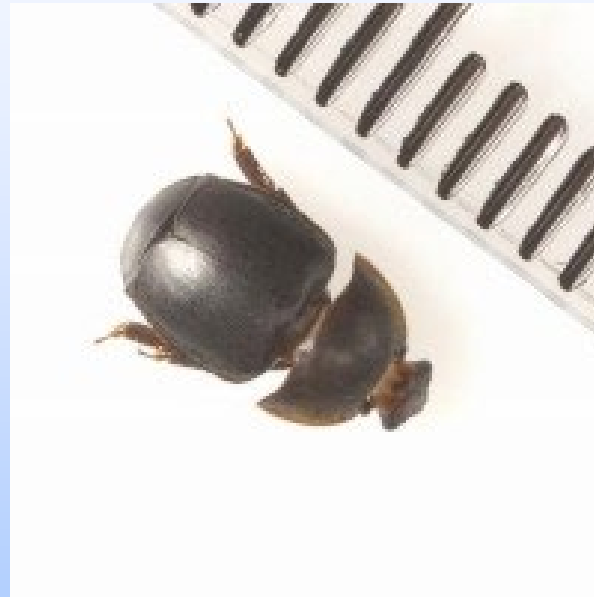
- ▶ Invasive pest species
- ▶ Indigenous to Sub-Saharan Africa
- ▶ First found out with Africa in late 1990's - USA
- ▶ Infested hives detected in S. Italy on 5<sup>th</sup> Sept 2014
- ▶ Notifiable pest



# Identifying Small Hive Beetle

## Adult beetles

- Size: 5-7 mm
- Colour: black
- Behaviour: hides from the light
- Clubbed antennae short wing cases



## Larvae

- Size: 10-11 mm
- Colour: beige spines on dorsum
- 3 pairs legs at the head end
- absence of silk webbing and droppings on combs

# Impact

## AFRICAN BEES

- A minor pest
- Native bees have evolved to deal with this pest
- Disposes of abandoned brood/comb



## EUROPEAN BEES

- The European honey bee has not adapted to the beetle
- Causes severe damage to brood, pollen and honey
- Severe infestations cause colony collapse or absconding



# Life cycle of Small Hive beetle

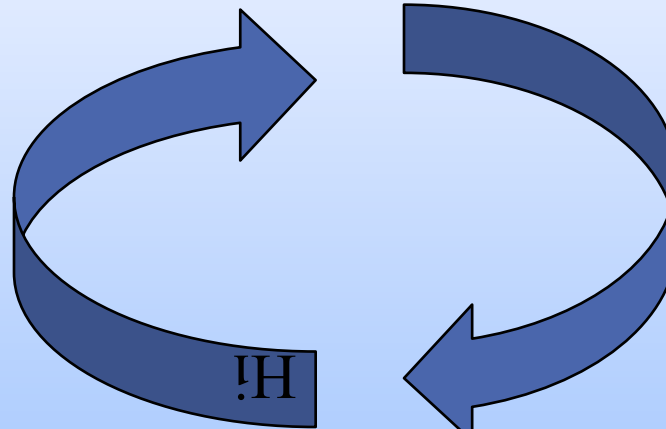


Beetles emerge from pupation and can find a hive by smell.



Adult females enter a hive and can lay 1-2000 eggs and live for up to 6 months

Pupation over 8-60 days (temperature dependent and humidity dependent)



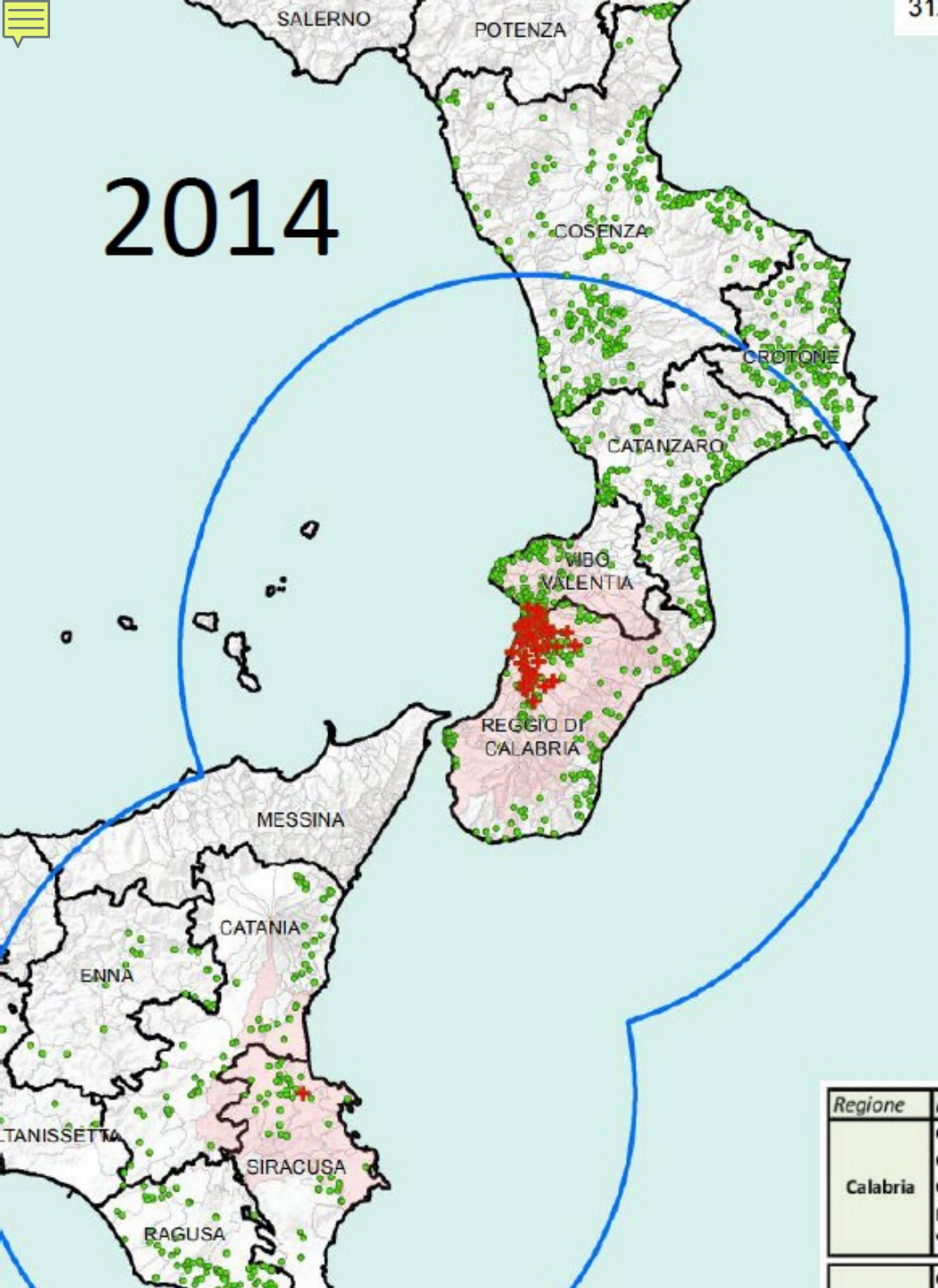
Larvae develop over 13 days then migrate to soil to pupate



# Small Hive Beetle behaviour - larvae

- Small hive beetle larvae do the most damage in the colony, burrowing through brood combs and consuming the brood and stores.
- Queens stop laying and colonies can quickly collapse. In heavy infestations, tens of thousands of Small Hive Beetle larvae may be present in a single hive.
- There can often be up to 30 larvae per cell.





# Arrival in Europe

- Infested hive detected in Reggio di Calabria in Southern Italy on 5<sup>th</sup> September 2014
- 20km protection zone around outbreak
- 100km surveillance zone
- Inspections done by vets – no bee inspectorate
- Further finding in Sicily – movement for citrus pollination
- Genetic analysis traced back to African population

## Current situation in Italy 2025

- Eradication not realistic
- Control and containment
- 30km protection zone
- Surveillance continues but is now limited



# Can it survive in Scotland?

- ▶ Yes – but not optimal

- ▶ Overwinter within cluster

- ▶ Limiting factors are soil temperature and humidity (17-25°C is ideal)

- ▶ Lower temps limit number of life cycles

- ▶ However...queen rearing and honey production affected even in cold climates

- ▶ Individual incursions could be eradicated; but once established eradication is unlikely



# What is Scotland's response?

Surveillance:

- Exotic pest inspections around risk points:
  - Imports of bees from Italy
  - Airports
  - Zoos
  - Garden centres etc.



# What to do if you suspect Small Hive Beetle?

- ➔ Suspect small hive beetle adults or larvae should immediately be sent to SASA for examination.
- ➔ Use a sealed container, such as a plastic tube or stiff cardboard box.
- ➔ Please provide as many details as possible – your name, the apiary locations (including, where possible, the Ordnance Survey map reference).
- ➔ Do not send live beetles in the post. Kill them first by keeping them in a freezer overnight or by putting them in 70% ethanol.
- ➔ A simple to use sampling form is available to download directly from the NBU's BeeBase website [www.nationalbeeunit.com](http://www.nationalbeeunit.com) (on the honey bee pests and diseases pages).



# Tropilaelaps

# Tropilaelaps overview

- ▶ Tropilaelaps is a mite
- ▶ Native hosts are Asian honey bee
- ▶ Group of four species – two of which have ‘jumped’ to *Apis mellifera*
- ▶ Less than 1/3 size of varroa – won’t see with naked eye or hand lens



# Distribution



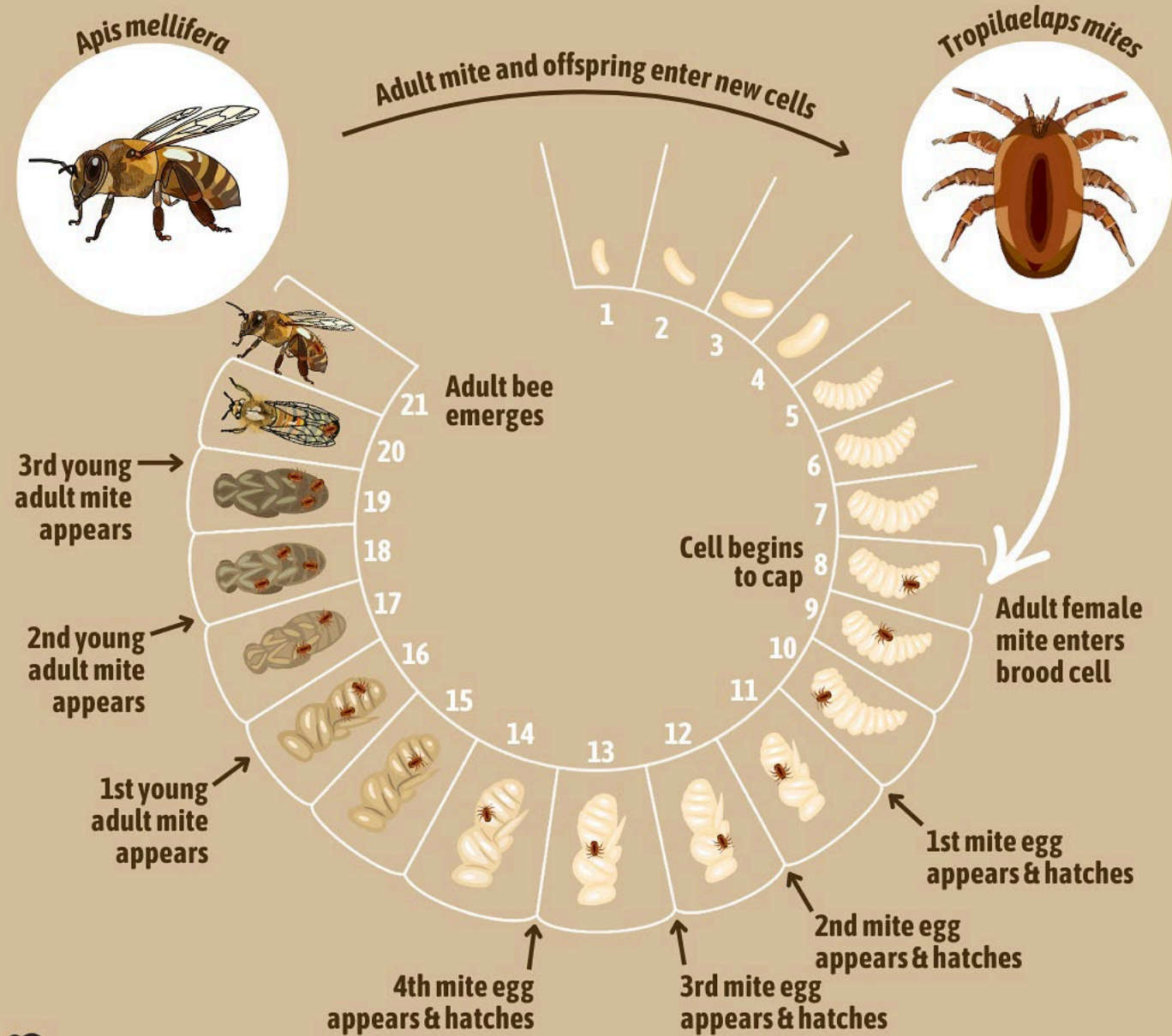
- Currently present in Indonesia, the Philippines, Myanmar, China, India, Laos, Malaysia, Papua New Guinea, Sri Lanka, South Korea, Thailand and Vietnam.

Recent reports from Russia and Ukraine

- Imports from the Ukraine are now banned.

Distribution of giant Asian honey bees (*Apis dorsata*) and the current confirmed distribution of *Tropilaelaps mercedesae* (correct December 2025)  
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# TROPILAEELAPS LIFE CYCLE



## Spread

- ▶ They readily move between bees and within the hive.
- ▶ They move between colonies through drifting, robbing and swarming.
- ▶ They are also spread within apiaries through distribution of infested combs and bees through poor beekeeping management.
- ▶ Transport / migratory beekeeping

Figure 10. *T. clareae* on pupa of *A. dorsata*



## Impact and risk

- ▶ Large economic impact in affected countries
- ▶ Feeding mites spread viruses – in the same way as varroa does.
- ▶ Size and biology mean beekeeper detection is unlikely
- ▶ Rapid population increase makes control more difficult and impact more severe
- ▶ Populations are likely already to have resistance to some miticides



# What do you do if you suspect Tropilaelaps?



- ▶ You must report immediately to the Beesmailbox.
- ▶ Suspect Tropilaelaps adults or larvae should immediately be sent to the SASA for examination.
- ▶ Inside the package, use a sealed container, such as a plastic tube or stiff cardboard box. Please provide as many details as possible – your name and address, the date, the apiary name and location (including, where possible, the Ordnance Survey map reference).
- ▶ Do not send live mites in the post. Kill them first by keeping them in a freezer overnight (or by putting them in 70% ethanol).

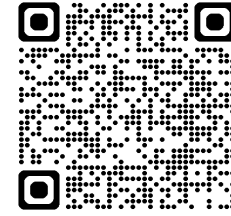
# Your responsibilities as a beekeeper



- It is important that beekeepers prepare for this possibility.
- Make sure your details are recorded on BeeBase
- Make sure you only import bees through the proper channels and with appropriate health certification.
- Knowledge of Tropilaelaps biology is changing based on new research.
- Keep up to date with the latest advice on the best ways to monitor and control for this pest.

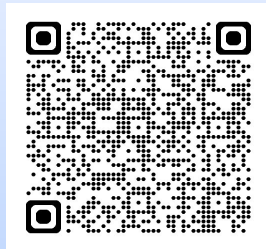
# Notifiable pests - resources

➤ [Italian national reference centre for beekeeping](#)



➤ [Update on the small hive beetle in Italy » APHA - National Bee Unit - BeeBase](#)

➤ [SHB 2025](#)



➤ [Adult Bee Diseases | SASA \(Science & Advice for Scottish Agriculture\)](#)



➤ [Tropilaelaps 2017 web version .pdf](#)



# Resources Available: Scottish Government and SRUC

Contact: [Bees\\_Mailbox@gov.scot](mailto:Bees_Mailbox@gov.scot)

[Scottish Government Honey Bee Health Strategy  
2022-2032](#)

[Scottish Government Honey Bee Implementation  
Plan](#)

[SRUC Bee Podcasts](#)



# Resources Available – Others

[BeeBase – Information for Scottish Beekeepers](#)



[Scottish Beekeepers Association](#)



[Bee Farmers Association](#)



[Honey bees: protecting them from pests and diseases - GOV.UK](#)





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## BEEKEEPING GOVERNMENT TRAINING MODULES

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