Bee Pests and Diseases

Neil Hallam
NBKA

Agenda?

- How do I know if my bees have a problem?
- What do I do about it?
- What preventative measures should I take?
- Where can I go for help?
- What else?

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- Neil's bee's survival kit

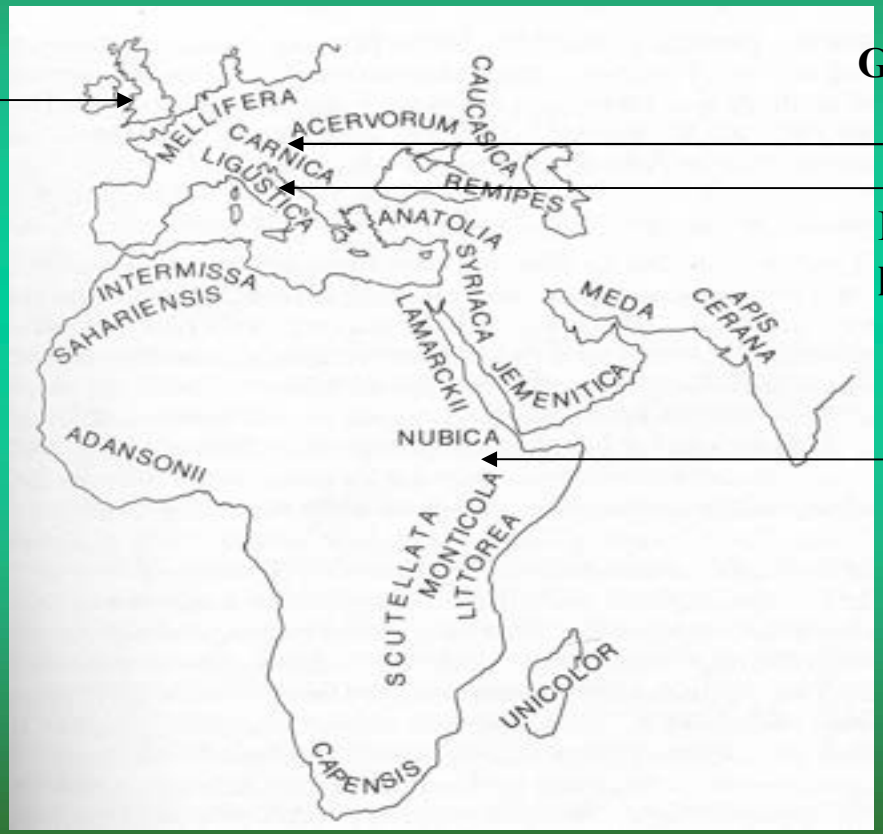
Important background

- 20 million years
- The Isle of Wight
- Hygienic bees
- Who knows?

Origins of Honey Bees

British bee

Apis mellifera spp



Grey bee - also popular

Italian bees – most popular world wide

Bees originated near here

Ex: Biology of the Honeybee by Mark Winston

Healthy bees

The Bee's Worst Enemy

(and best friend)

Pests and Diseases To Manage

- Effects of viruses and stress
- Varroa
- Foul Brood
- Nosema
- Cold winter creatures
- Predators (wasps, woodpeckers)
- Reportable future risks
  - Asian Hornets
  - Small Hive beetle
  - Tropilaelaps

Look Out For

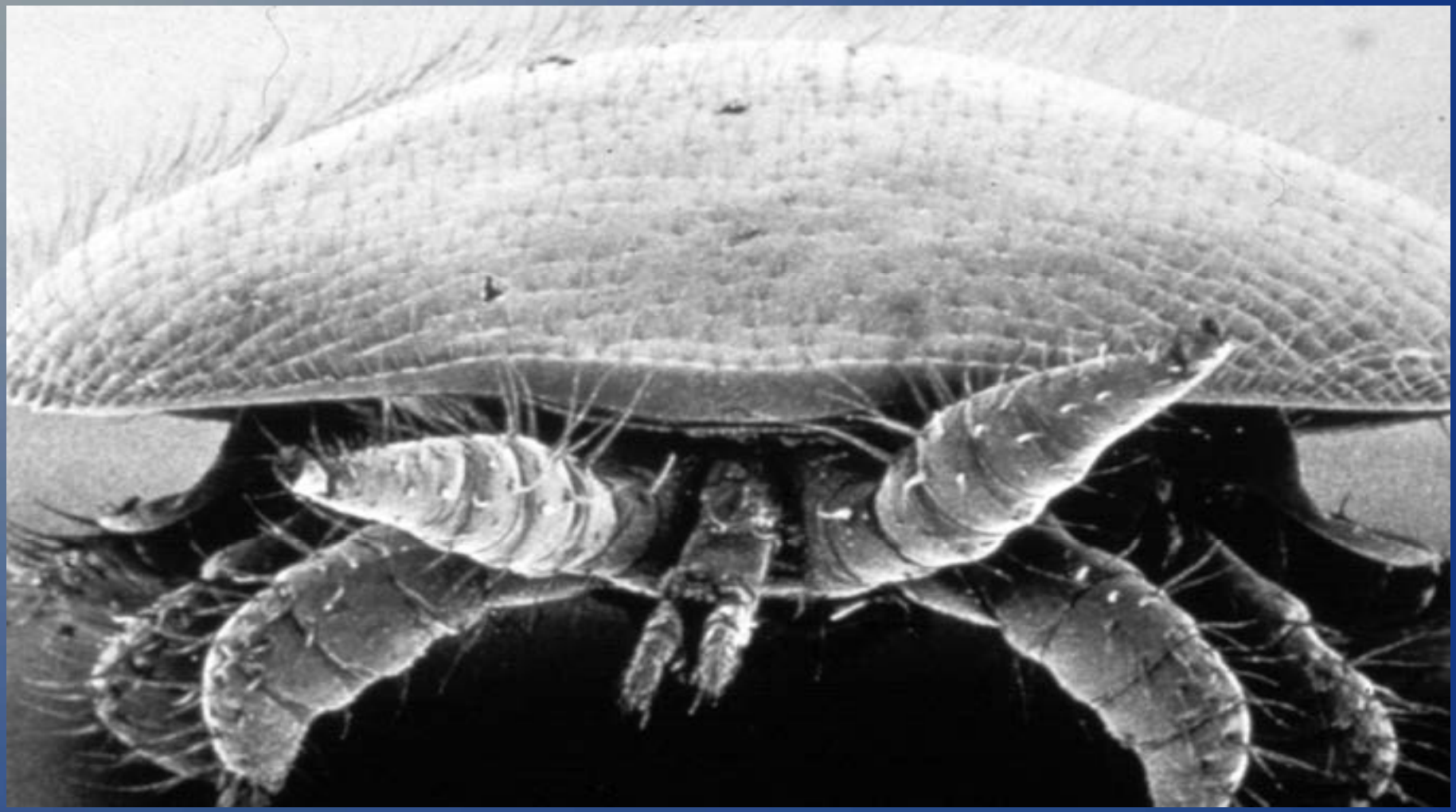
- Brood problems
  - Chalk Brood
  - Sac Brood
  - Bald Brood
  - Chilled Brood
- Unlikely to see
  - Acarine
  - Braula
- More important to the beekeeper than the bees
  - Wax Moths

Help!!!!

- Don’t panic
- NBKA
  - Mentors
- Google
- Facebook
- BBKA
- FERA
- Beebase

The Ones to Watch For

Varroa Mite



Varroa

Varroa

* Monitor mite drop
* Use the BBKA varroa calculator to find number of mites in the colony
* When excessive treat the colony
* Control mite numbers in summer by removing drone larvae
* May use non medicinal curative substances (i.e.Thymol)

Nosema

fera
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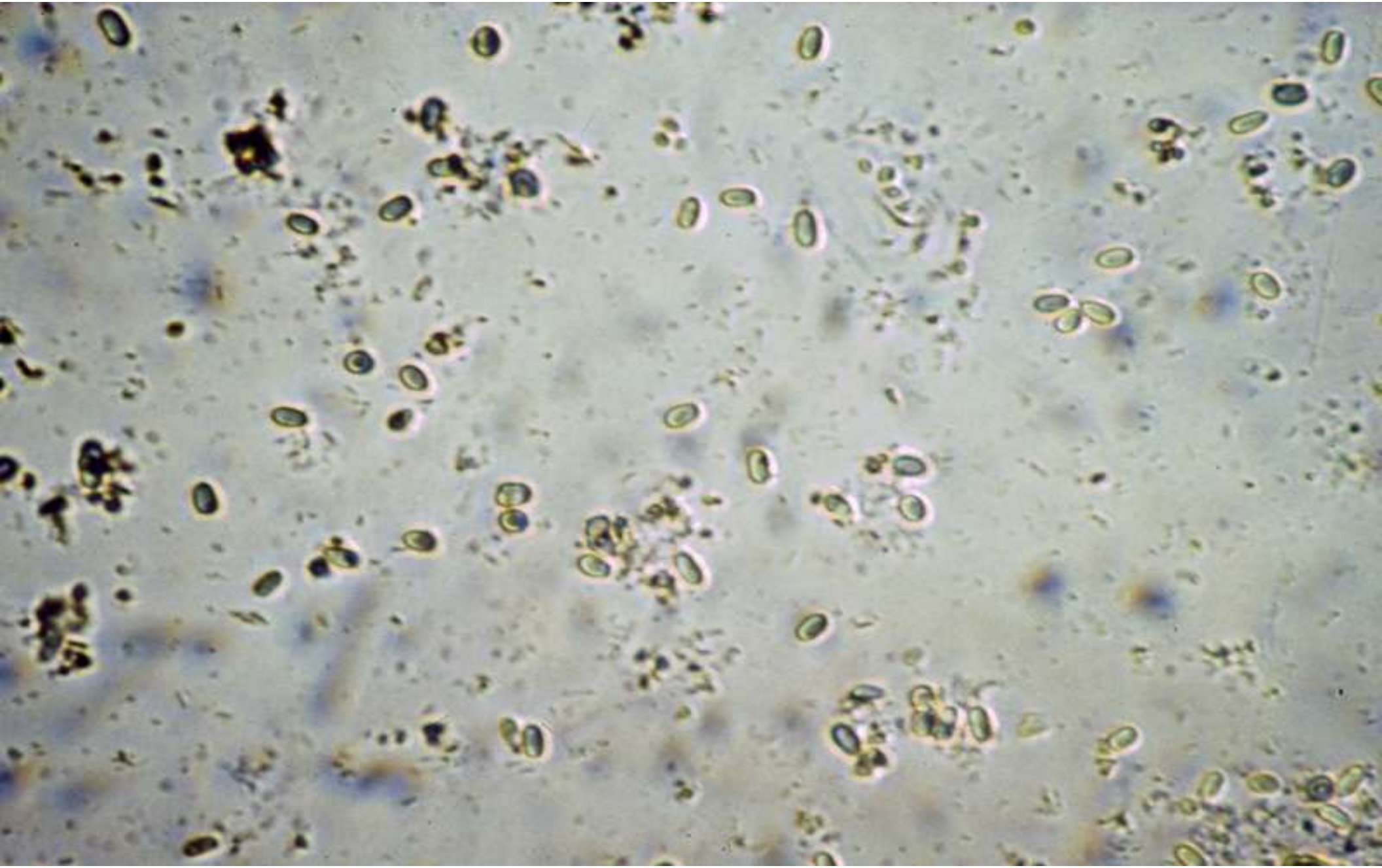
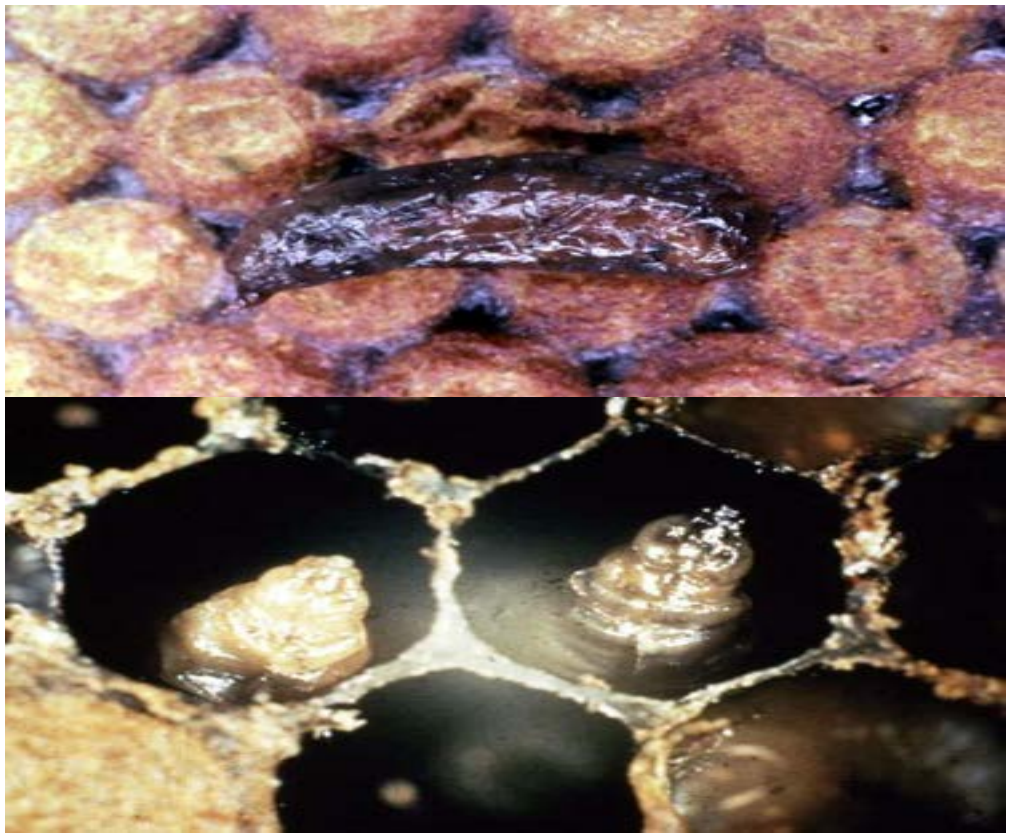


Sacbrood

- Common viral disease
- Fluid filled sacs
- Pale yellow with head curled up
- Typical “Chinese slipper” appearance




Sac Brood

Chalkbrood

Common fungal infection

Caused by *Ascosphaera apis*

Infection gives rise to chalkbrood “mummies” often seen discarding on hive floors or outside hive entrance

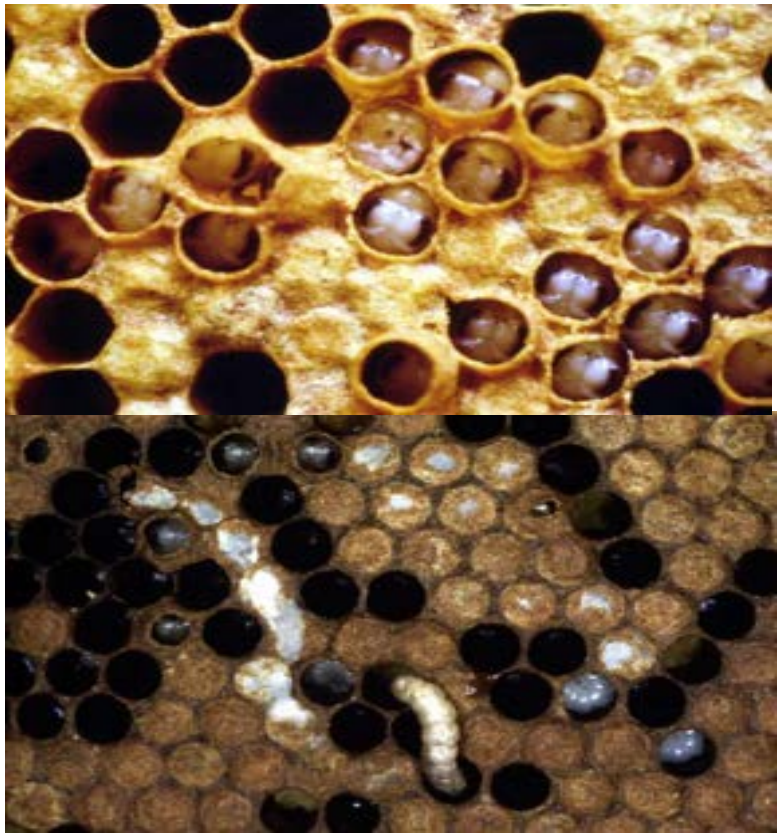
Bald brood

Normally developing larvae in uncapped cells

Genetic origin

Infestation by wax moth larvae

Development of larvae into pupae and adults unhindered



Wax moth

Bald Brood

The Food and Environment Research Agency

Failing queen/laying workers

Symptoms

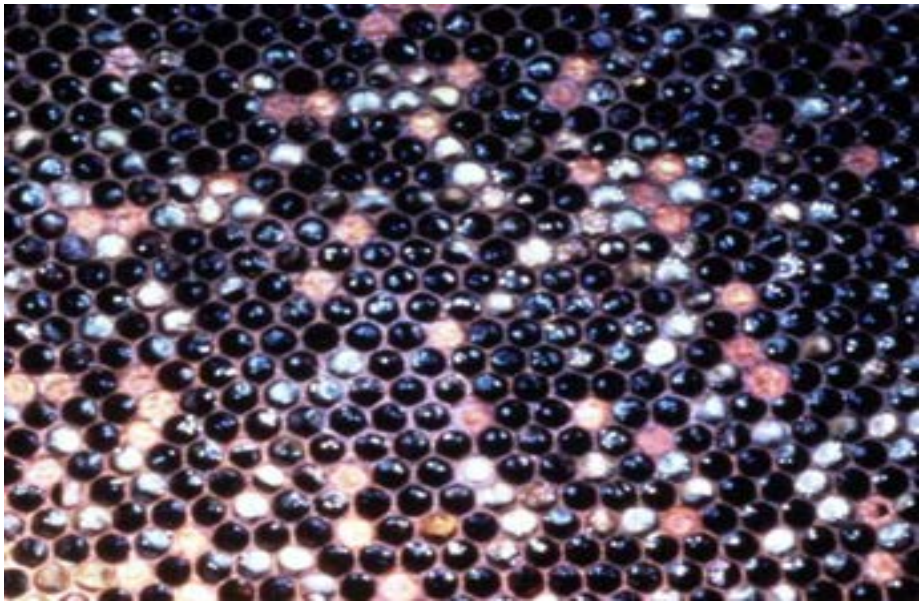
Uneven/irregular brood pattern

Drone pupae in worker cells - cells extended to accommodate the drone pupae

Possible reasons

Failing queen - sperm supply exhausted

Lost queen - workers with functional ovaries lay eggs



Chilled Brood

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The Foul broods

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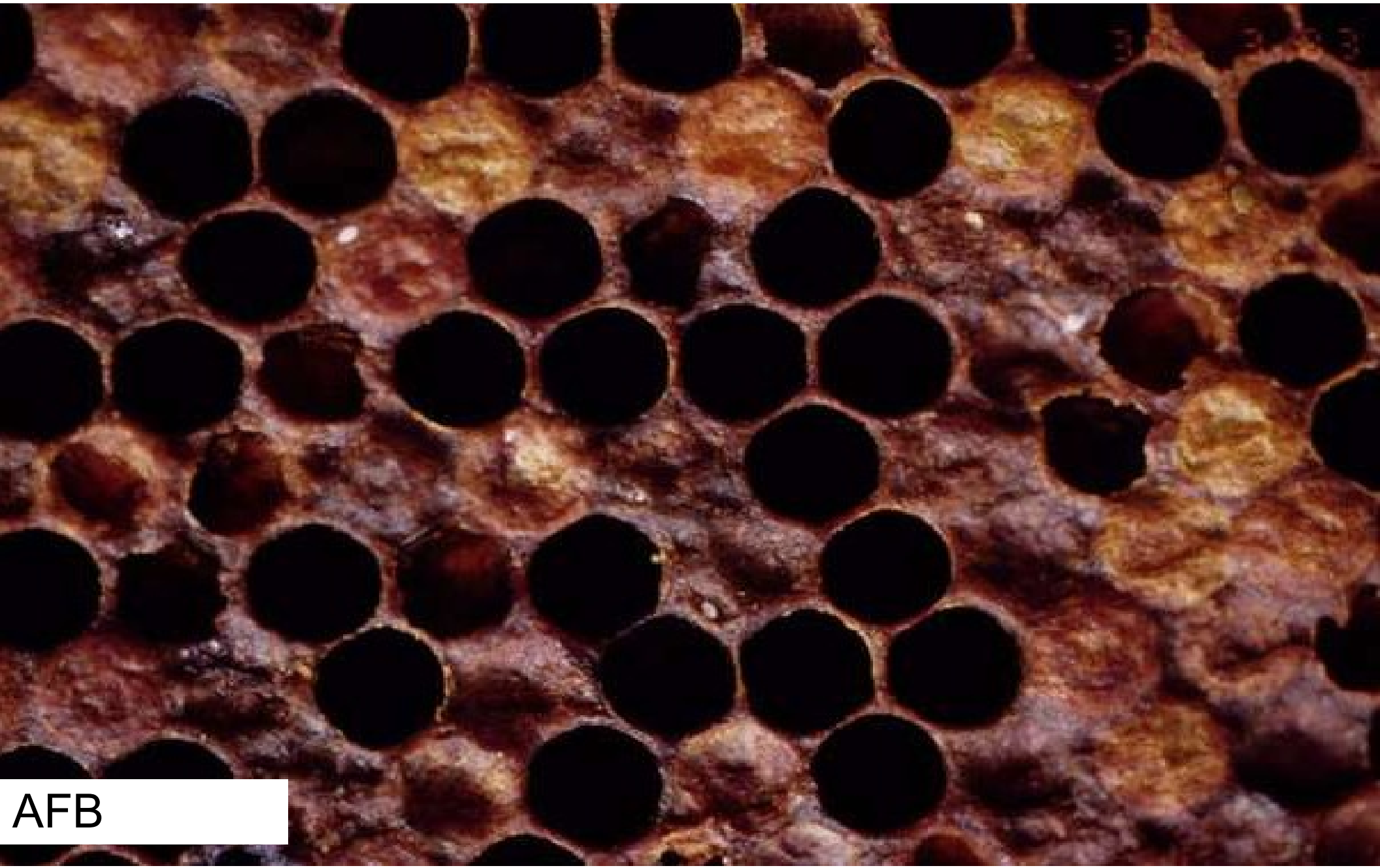
- American foul brood
  - Endemic and occasional
  - *Paenibacillus larvae* subsp. *larvae*
  - UK = destruction
  - Notifiable throughout EU
  - Infected colonies die

- European foul brood
  - Endemic and widespread
  - *Melissococcus plutonius*
  - UK = Destruction (heavy); shook swarm (light)
  - Not notifiable in EU
  - Infected colonies *may* survive untreated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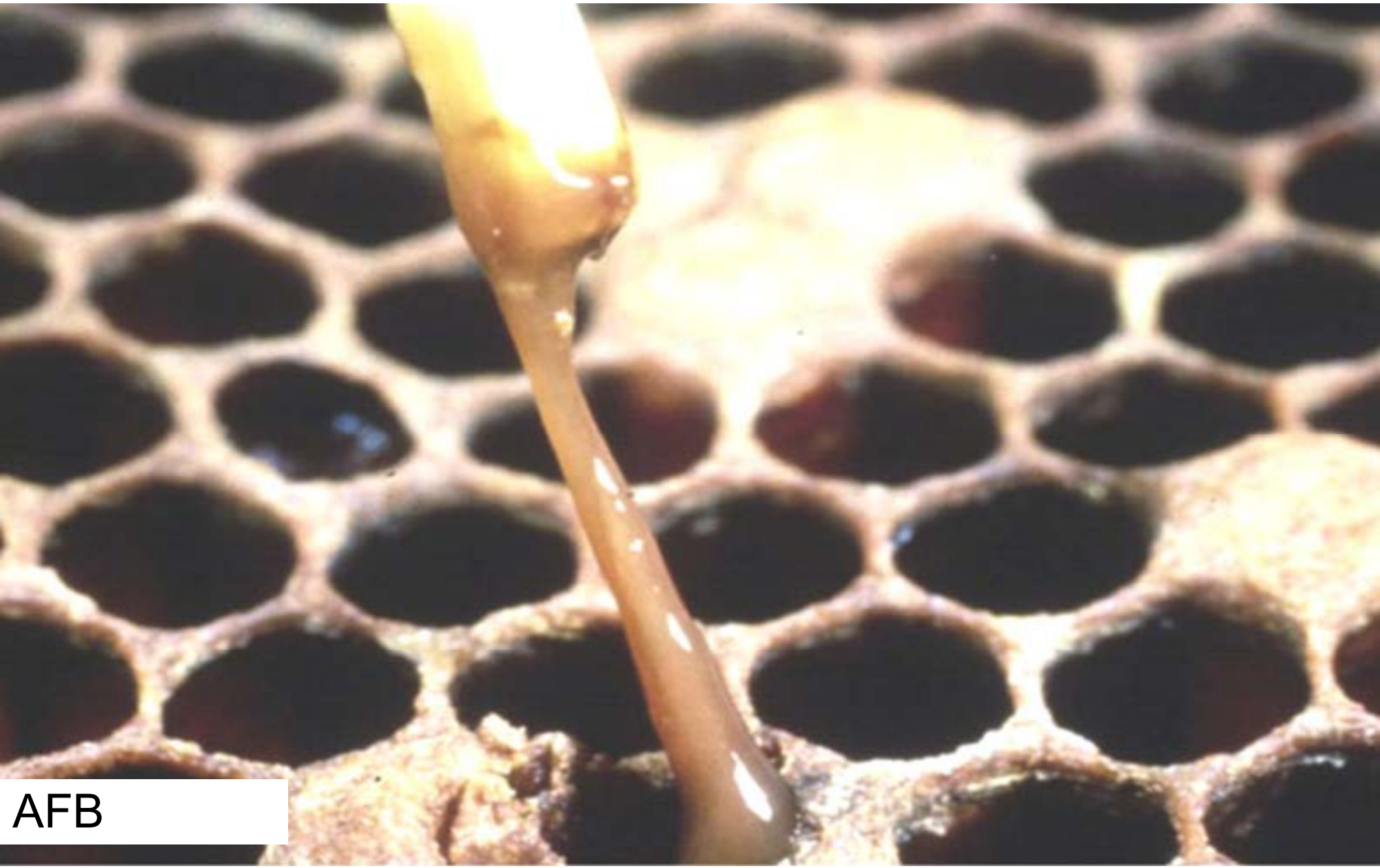
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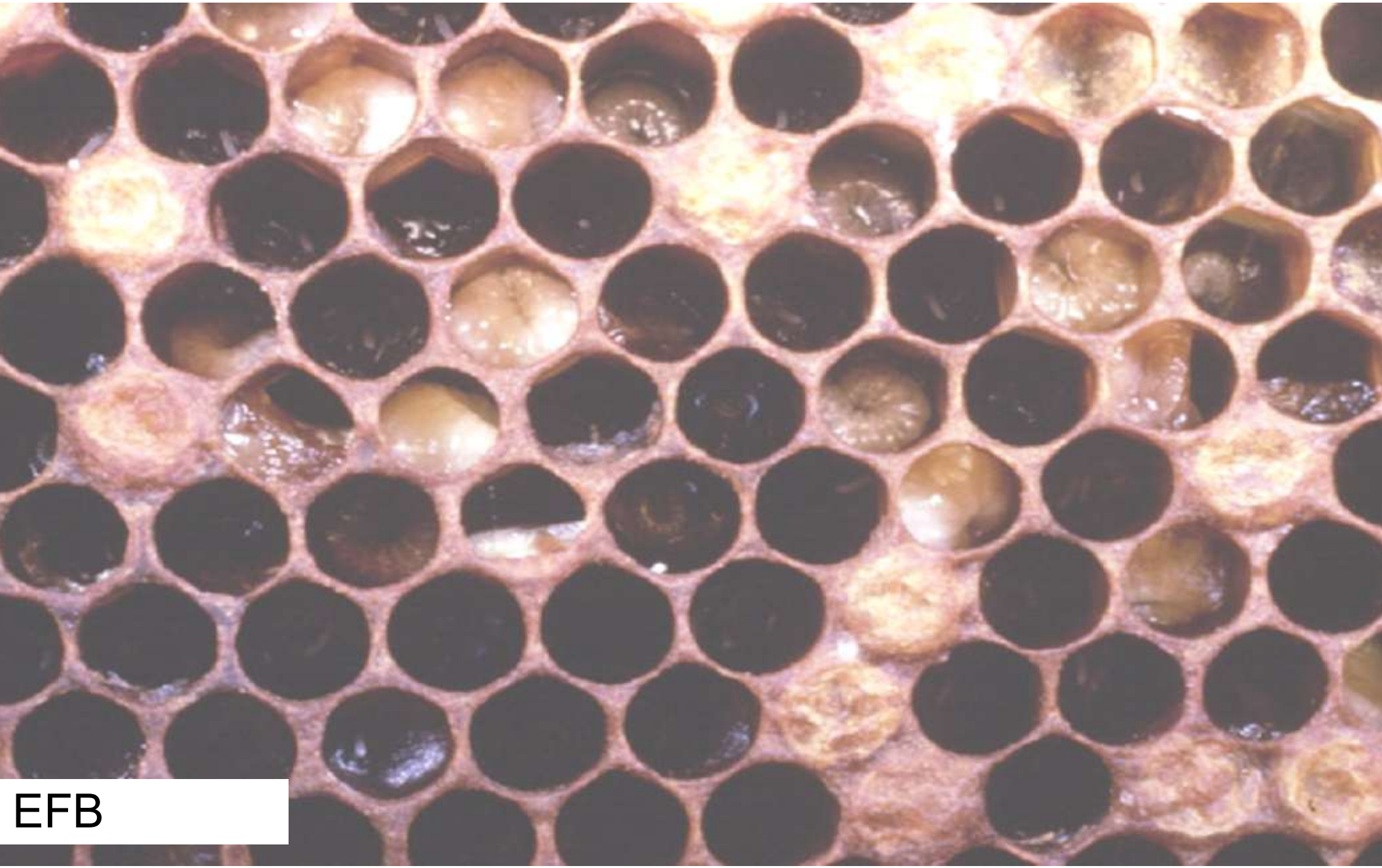
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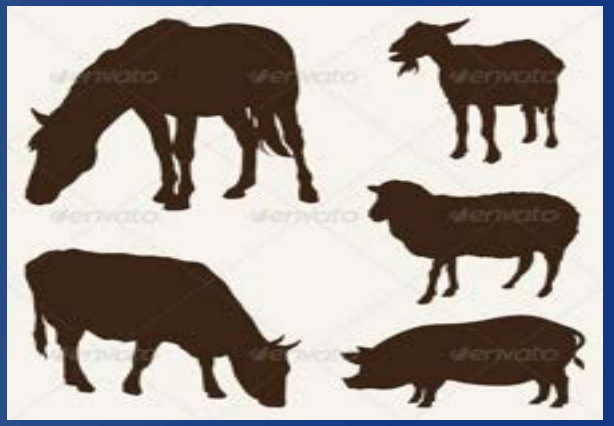
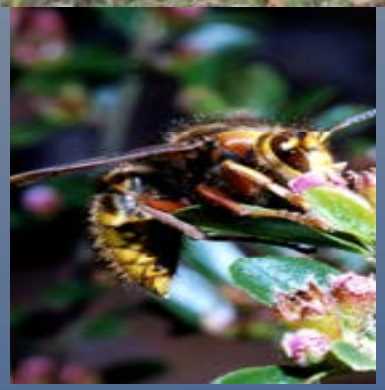
Predators and Nuisances





Up and Coming – Watch Out...

Asian Hornets

NNSS

Have you seen this insect?

ASIAN HORNET

Vespa velutina

What is it?

An invasive non-native hornet originally from Asia. Suspected records should be reported immediately. A highly aggressive predator of native insects, posing a significant threat to honey bees and other pollinators. Accidentally introduced to France in 2004 and spreading rapidly. Not yet present in GB (Jan 2012) but likely to arrive soon.

Where might I see it?

Most likely to be seen close to bee hives - bee keepers should be alert. Active from February to November in suburban areas in the south of England and Wales, or around major ports.

What does it look like?

Distinctive hornet, smaller than our native species. A key feature is the almost entirely dark abdomen, except for the 4th segment which is yellow.

- Slightly smaller than native hornet
- Dark abdomen, 4th segment yellow
- Bright yellow tips to legs (native hornet dark)
- Entirely brown or black thorax (native hornet more orange)

Asian Hornet abdomen

Native Hornet abdomen

- Makes very large nests

- 'Hawks' outside honey bee colonies killing bees as they attempt to defend their hive

DANGER!

This hornet stings. Do not disturb an active nest. Seek advice using the details below.

For more information or to report any sightings please email:

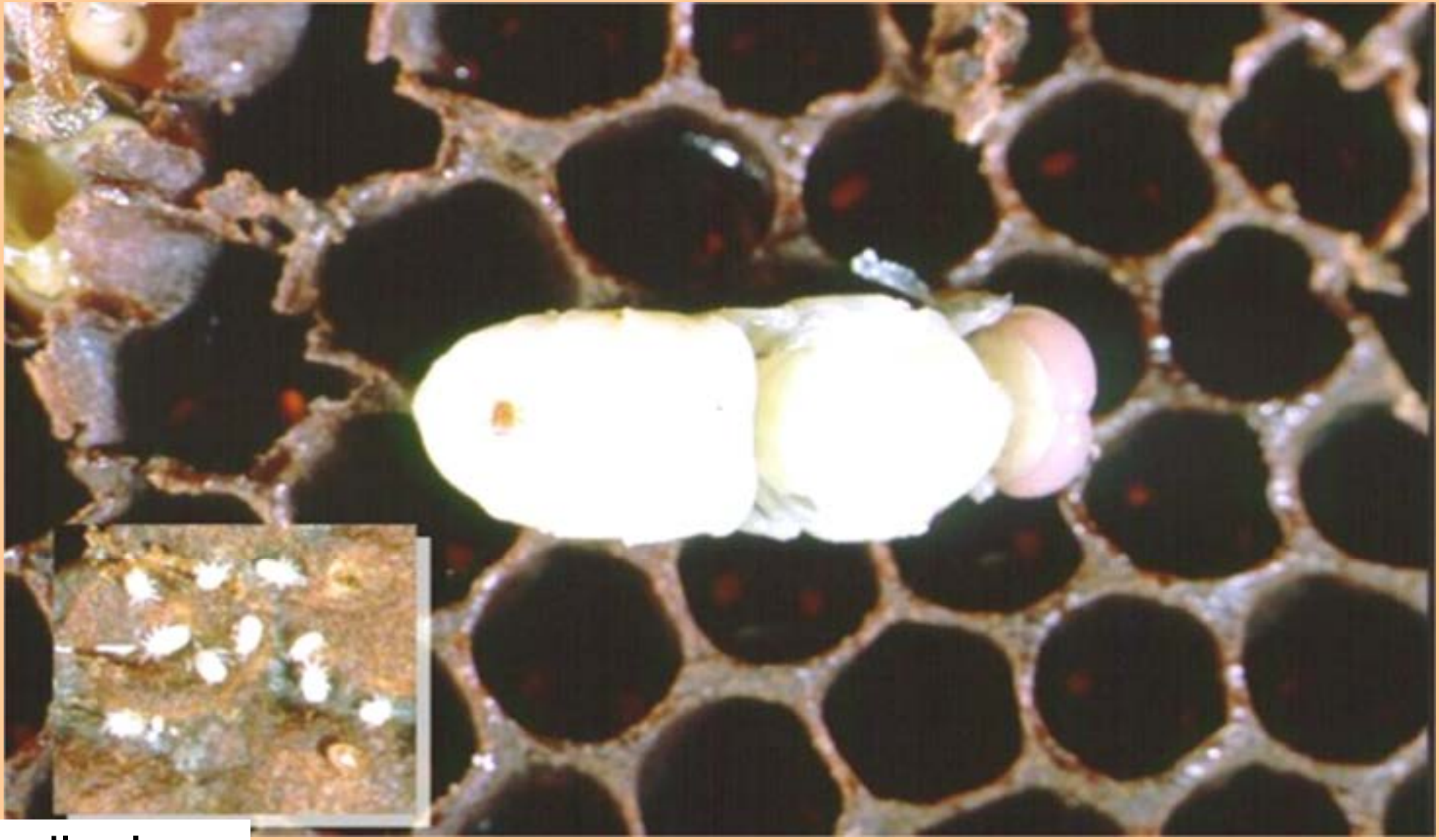
alert_nonnative@ceh.co.uk

www.nonnativespecies.org

They're Here.....


Ireland
Limerick
Cork
ENGLAND
Cambridge
WALES
Oxford
London
Bristol
Cardiff
Brighton
Southampton
Plymouth
Amsterdam
The Hague
Netherlands
Hanover
Brunswick
Dortmund
Antwerp
Essen
Cologne
Brussels
Belgium
Frankfurt
Luxembourg
Mannheim
Stuttgart
Guernsey
Jersey
Celtic Sea
Brest
Rennes
Nantes
Zurich
Liechtenstein
Switzerland
France
La Rochelle
Geneva
Clermont-Ferrand
Milan
Grenoble
Turin
Bordeaux
Bay of Biscay
Genoa
Nimes
Toulouse
Montpellier
Marseille
Cannes
Leon
Sign in

Tropilaelaps



Tropilaelaps

Small hive beetle

Small hive beetle

Who do I contact

NBU website: www.nationalbeeunit.com

NBU email: nbu@csl.gov.uk

Healthy bees

Help!!!!

- Don’t panic
- NBKA
  - Mentors
- Google
- Facebook
- BBKA
- FERA
- Beebase

Healthy bees