

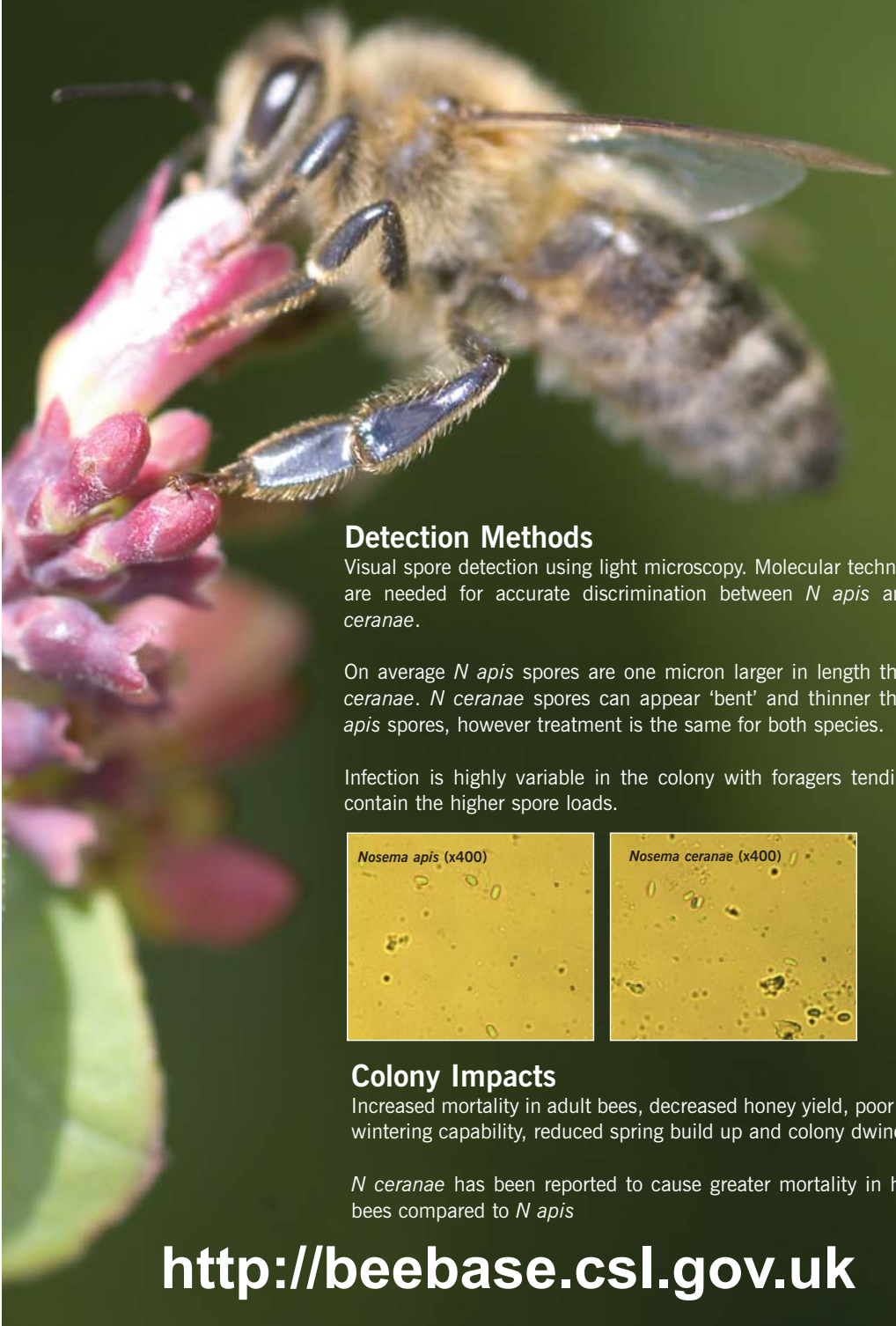
# Nosema: The Current Situation

## Background

There are two known *Nosema* species that can infect honey bees: *Nosema apis* and *Nosema ceranae*.

*N. ceranae* was first reported in *Apis ceranae* in China in 1994 and has been present in Europe since at least 1998. *N. ceranae* was first detected in the UK in 2007.

*Nosema* are microsporidia (primitive fungi) transmitted via spore ingestion. Although *Nosema* can be spread by dysentery it is not the cause of dysentery.

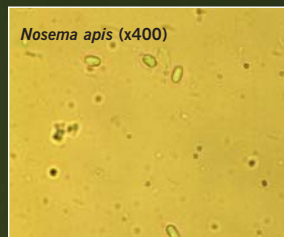


## Detection Methods

Visual spore detection using light microscopy. Molecular techniques are needed for accurate discrimination between *N. apis* and *N. ceranae*.

On average *N. apis* spores are one micron larger in length than *N. ceranae*. *N. ceranae* spores can appear 'bent' and thinner than *N. apis* spores, however treatment is the same for both species.

Infection is highly variable in the colony with foragers tending to contain the higher spore loads.



## Colony Impacts

Increased mortality in adult bees, decreased honey yield, poor overwintering capability, reduced spring build up and colony dwindling.

*N. ceranae* has been reported to cause greater mortality in honey bees compared to *N. apis*

<http://beebase.csl.gov.uk>



## Authors

Ben Jones  
b.jones@csl.gov.uk

Giles Budge  
g.budge@csl.gov.uk

## Address

National Bee Unit  
Central Science Laboratory,  
Sand Hutton,  
York,  
YO41 1LZ.  
UK.

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