



Mites: Does Size Matter?

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January 8, 2020



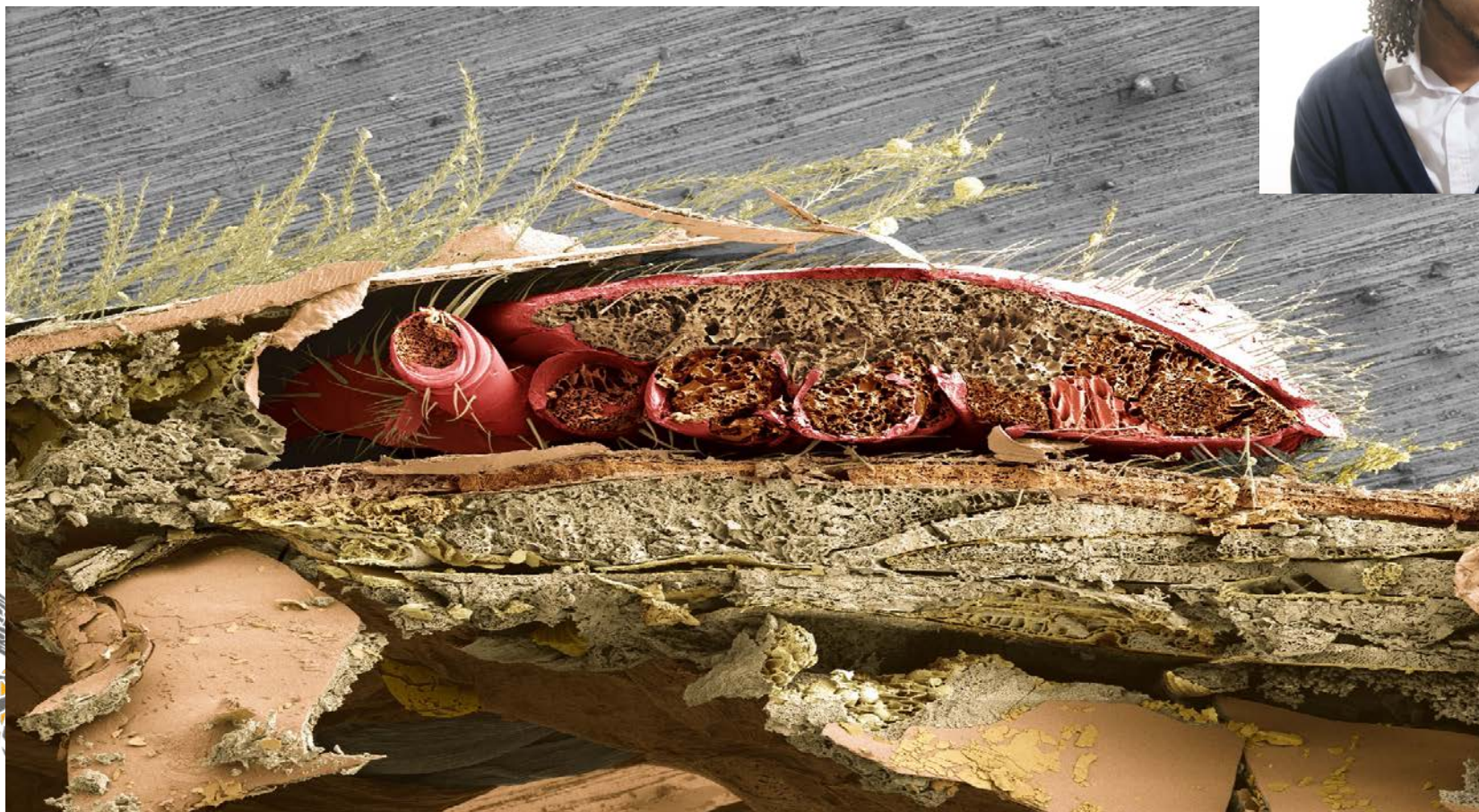
Project goal: Understand the role of mite size for apparent miticide resistance

- ▶ Mites remain a main problem for US beekeepers
- ▶ Mite control is a growing issue
- ▶ Mite size may play a role in mite tolerance to varocides

- ▶ **FUNDING RECEIVED DEC 2019**
 - ▶ So we will focus on Justification and preliminary results.

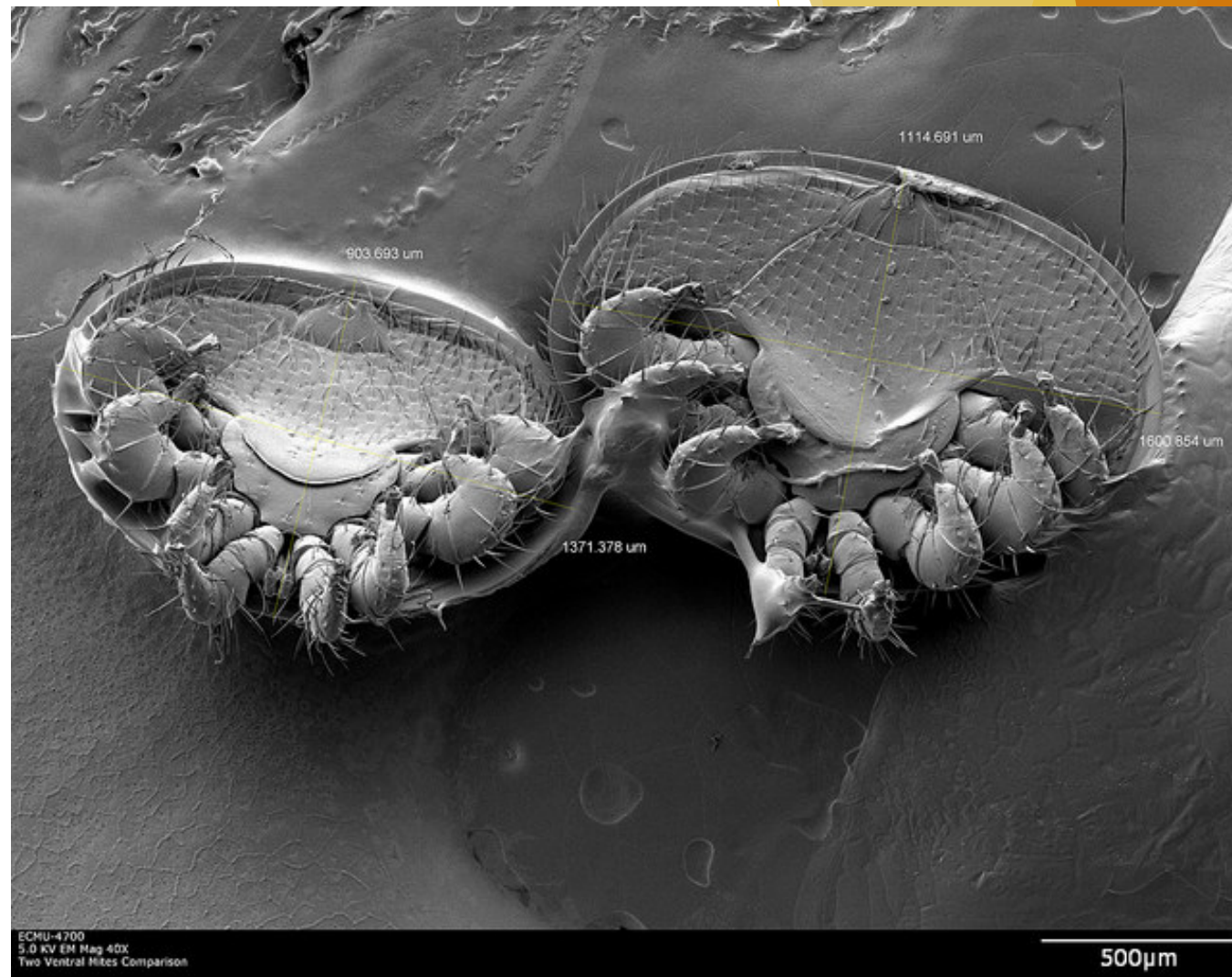


Why study mite size?



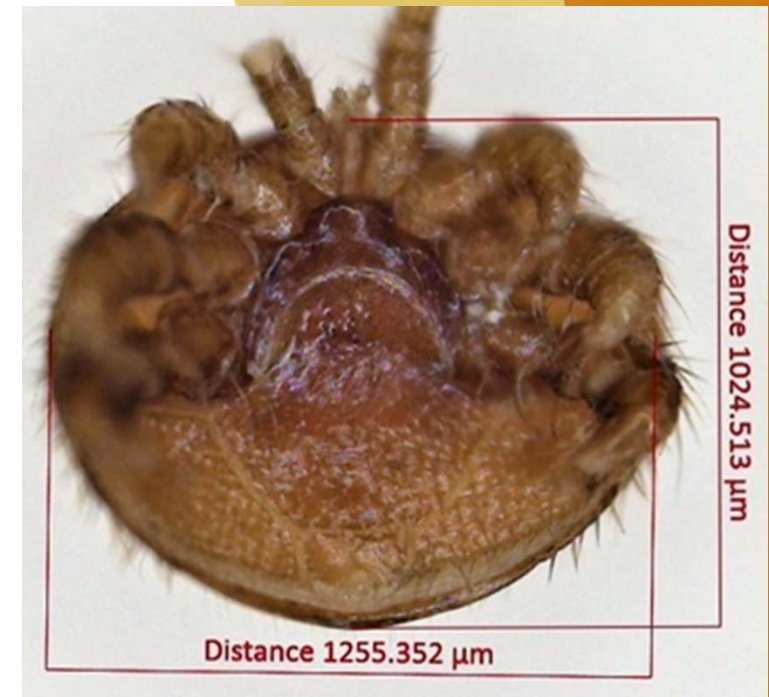
A small mite?

- ▶ What is a normal mite?



Varoa destructor vrs. V. jacobsoni

- ▶ V. jacobsoni
 - ▶ Does not feed on A. mellifera
 - ▶ Smaller
 - ▶ Rounder
 - ▶ mRNA

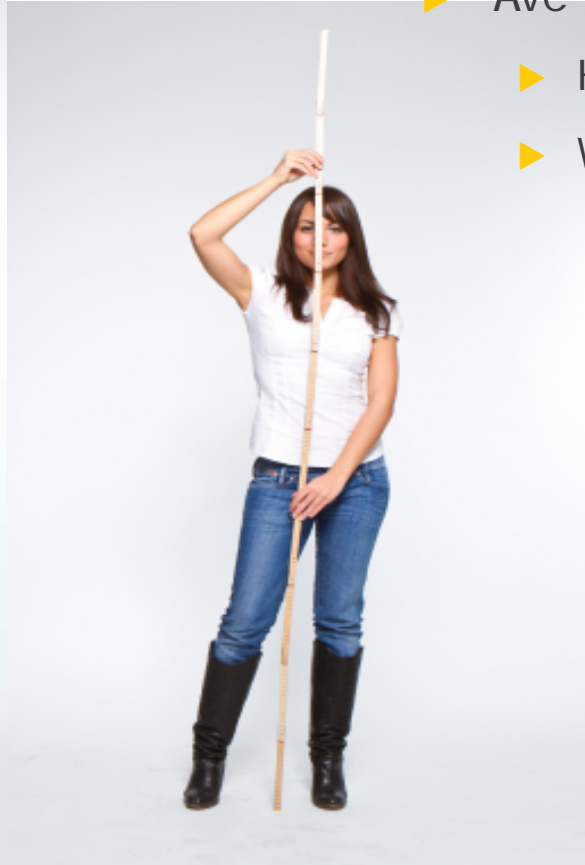


V. destructor vrs V jacobsoni

- ▶ Ave US women
 - ▶ Hgth: 63.7" (5'4')
 - ▶ Wst: 38.7"



- ▶ Ave V. jacobsoni women
 - ▶ Hgth: 46.5" (3'10")
 - ▶ Wst: 35'



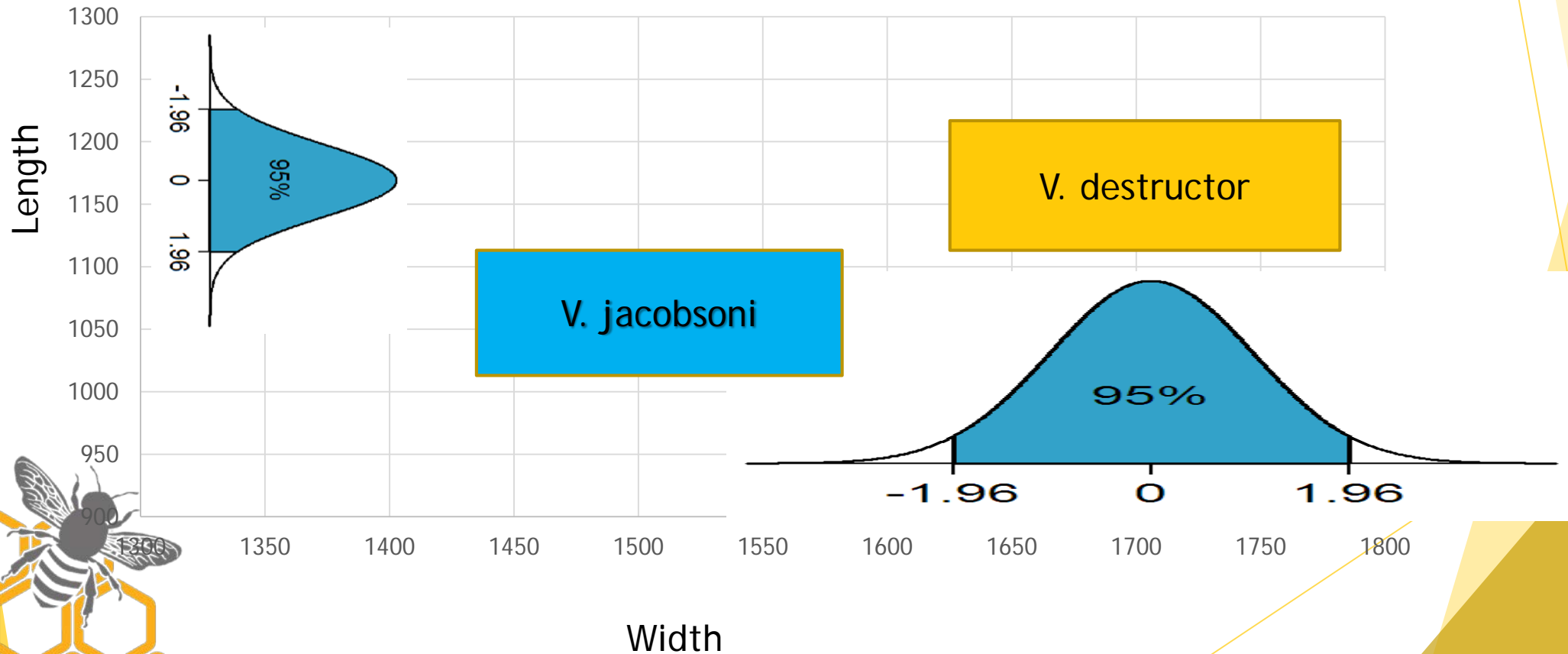
HEALTHY HIVES
2020



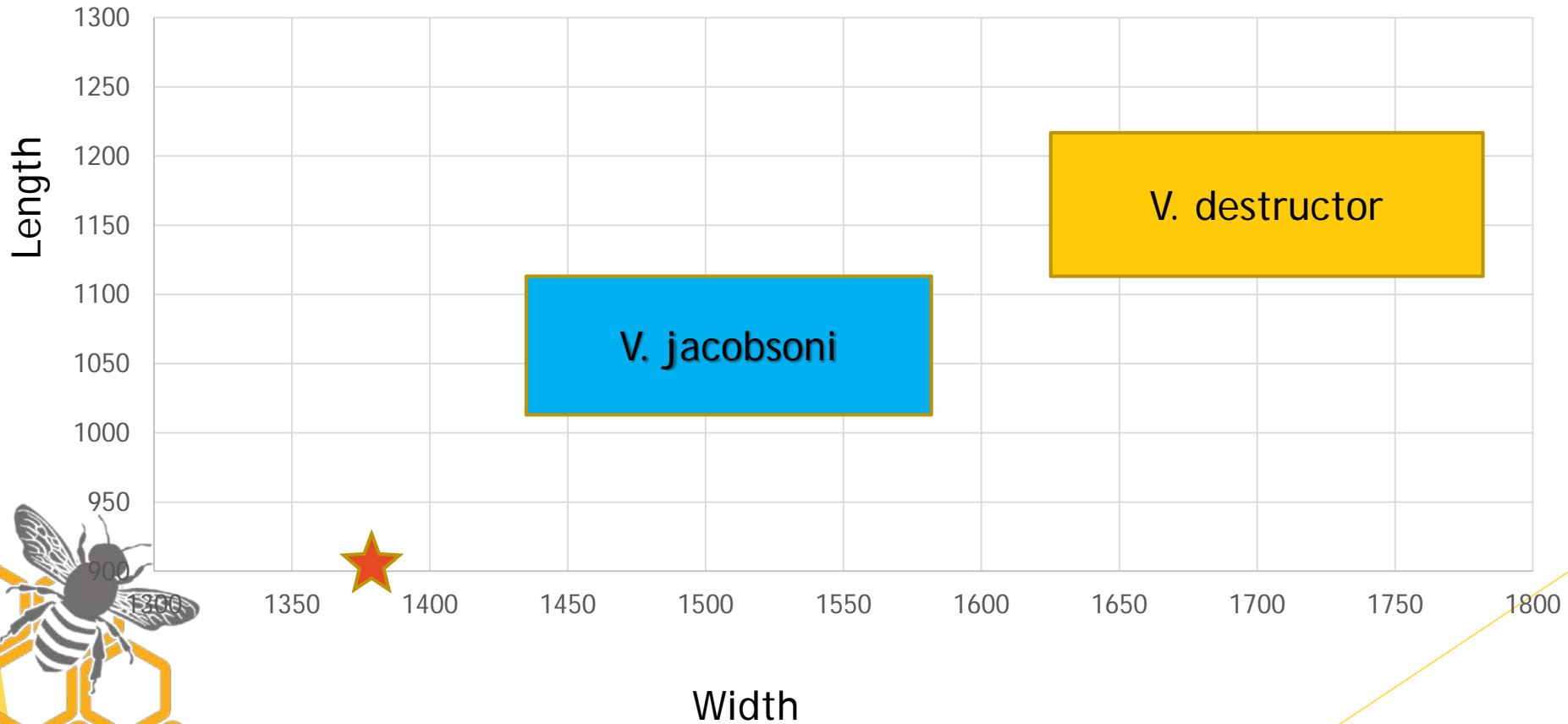
GLAMOUR

RESTRICTED

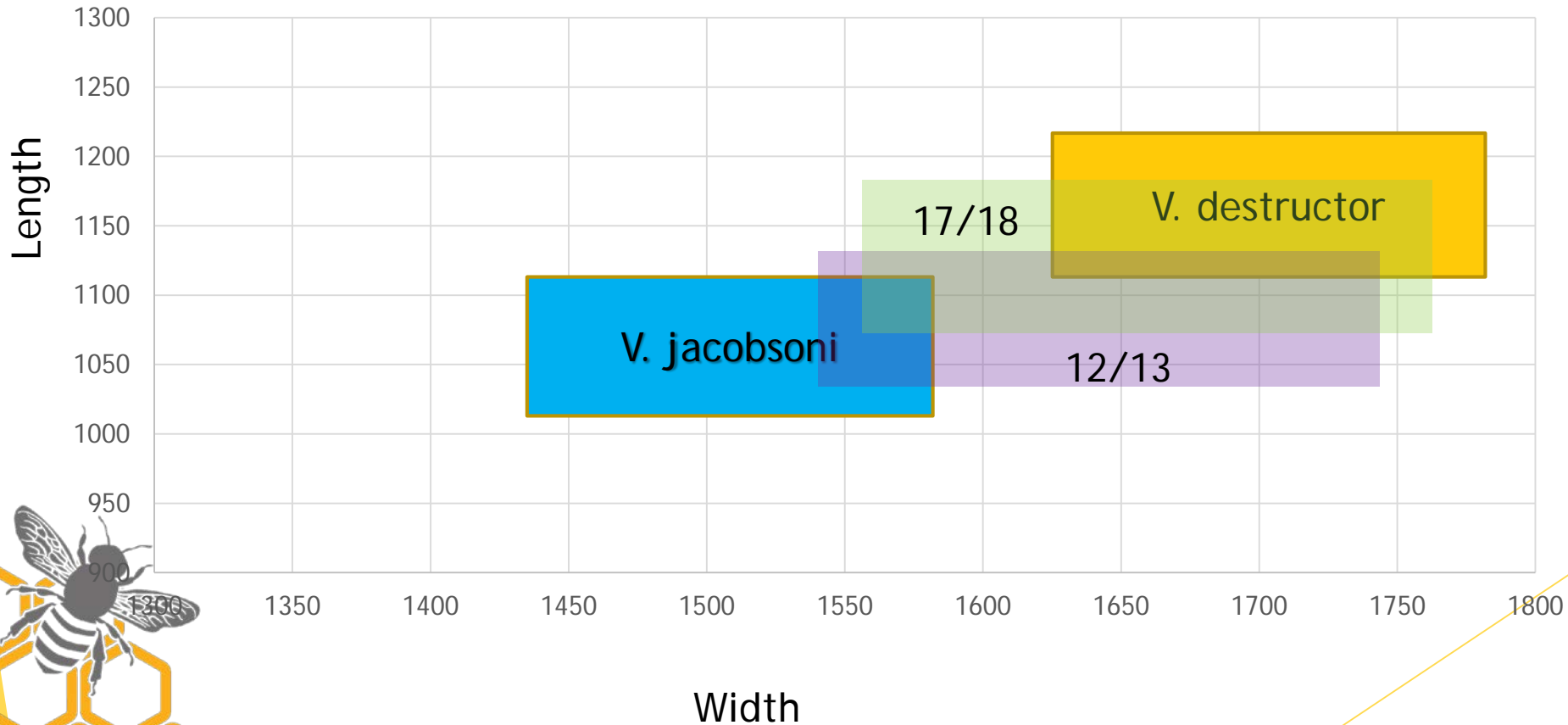
What is a normal population size (Anderson and Truman 2000)



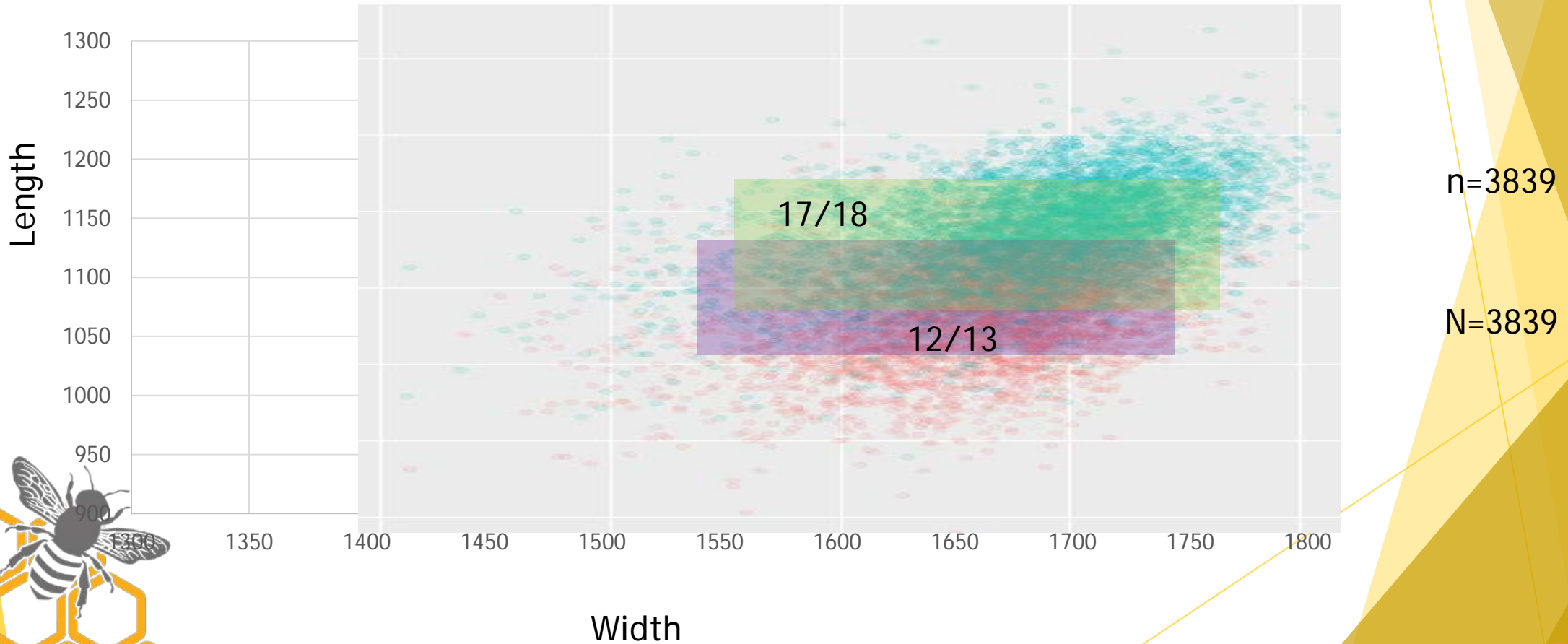
What is a normal population size



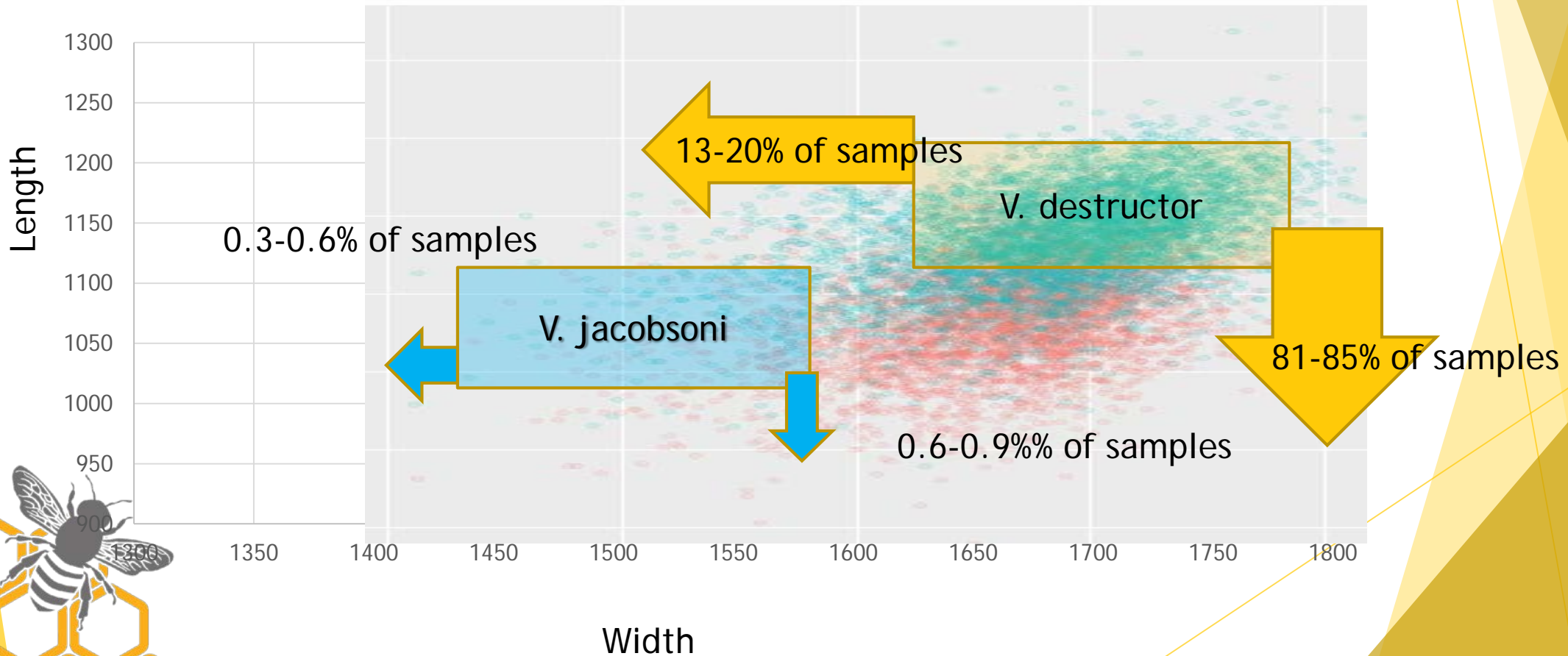
What is a normal population size



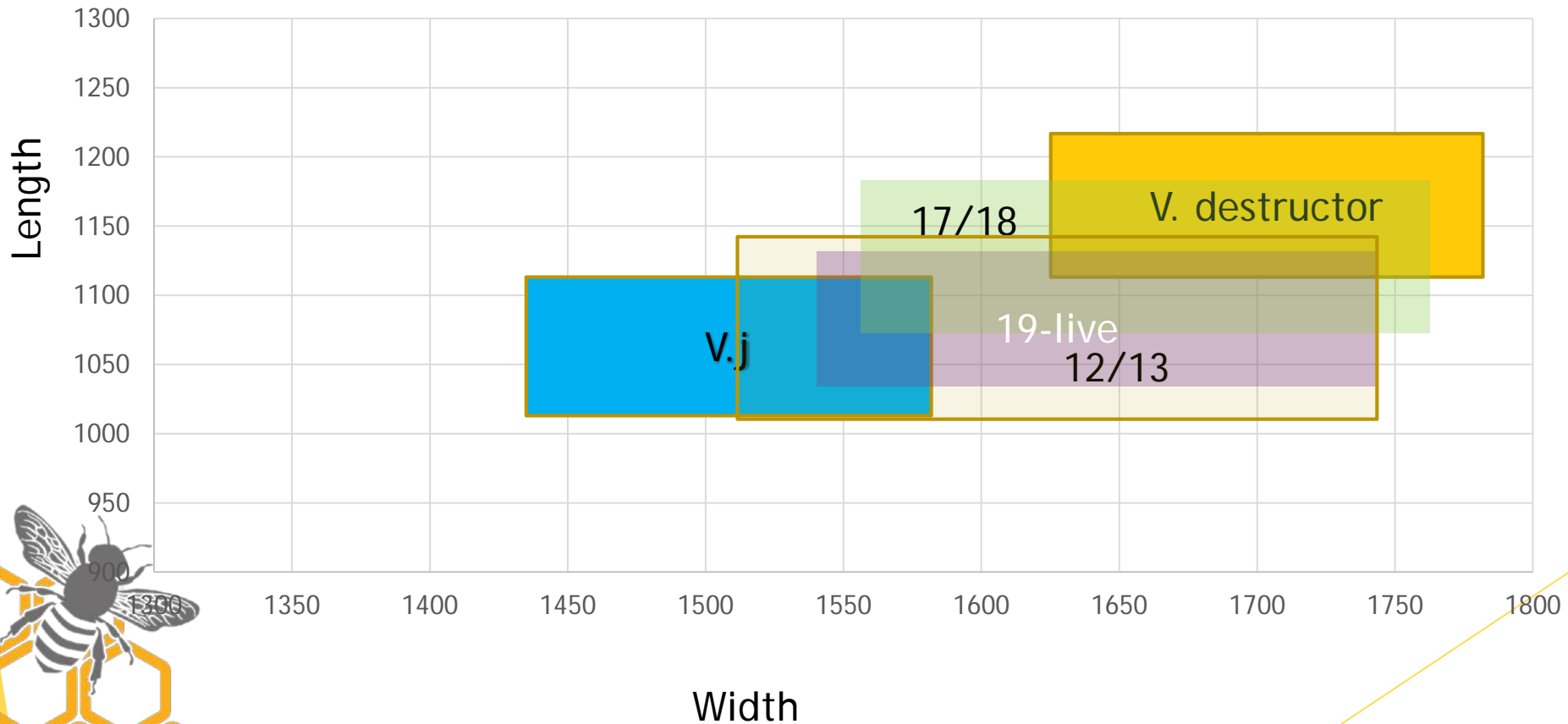
What is a normal population size

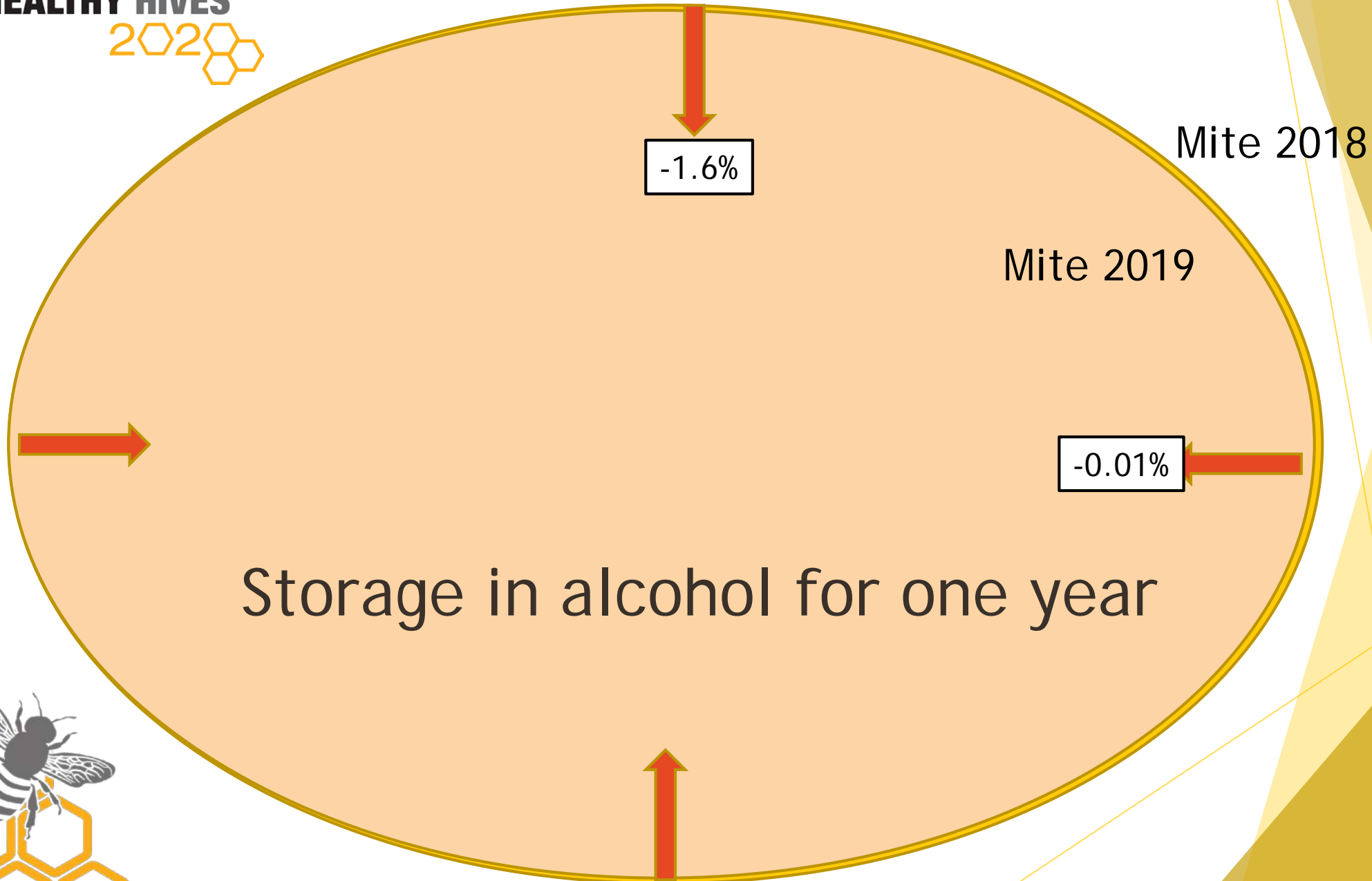


What is a normal population size



Does size change with preservation and storage?





Mite 2018

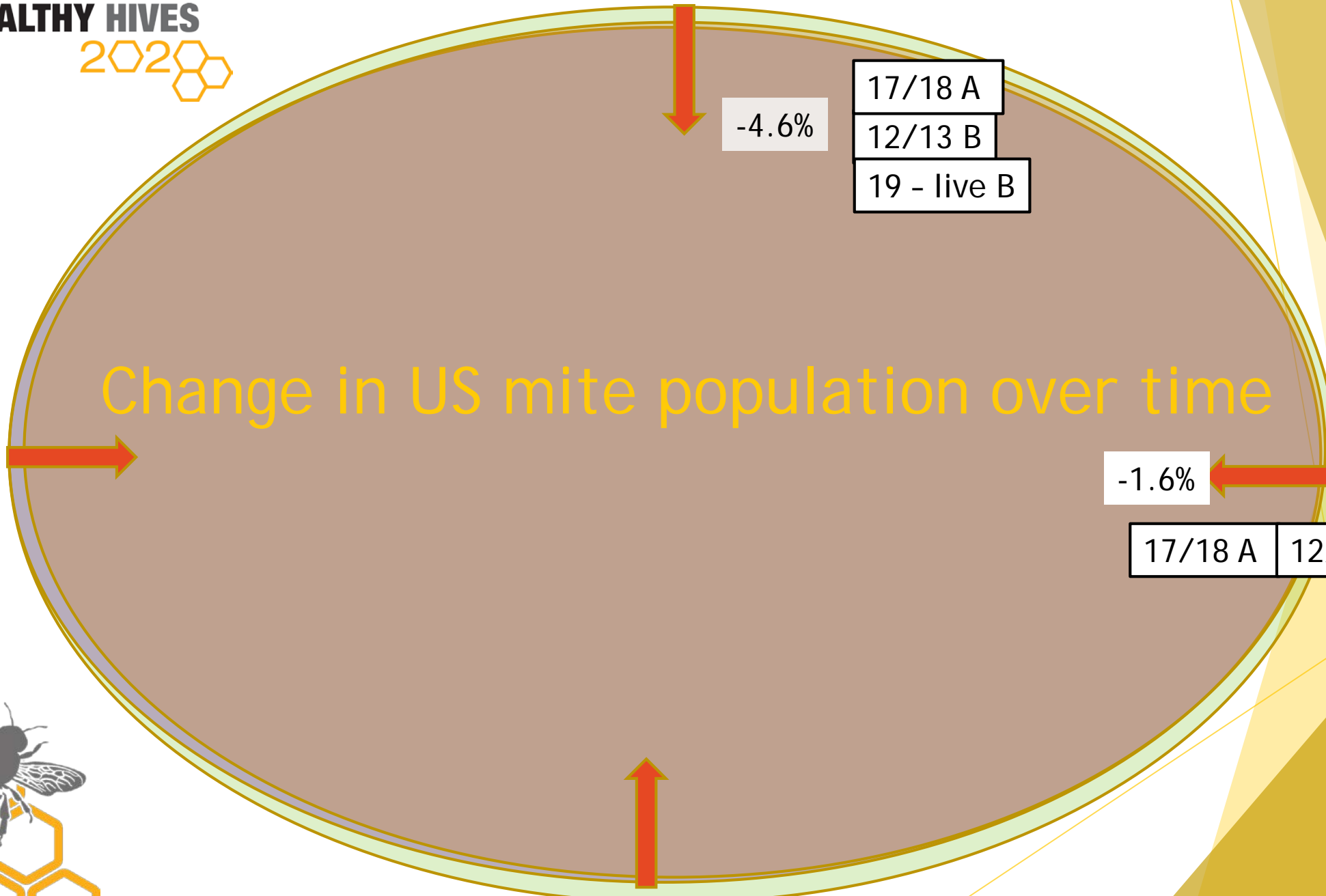
Mite 2019

Storage in alcohol for one year



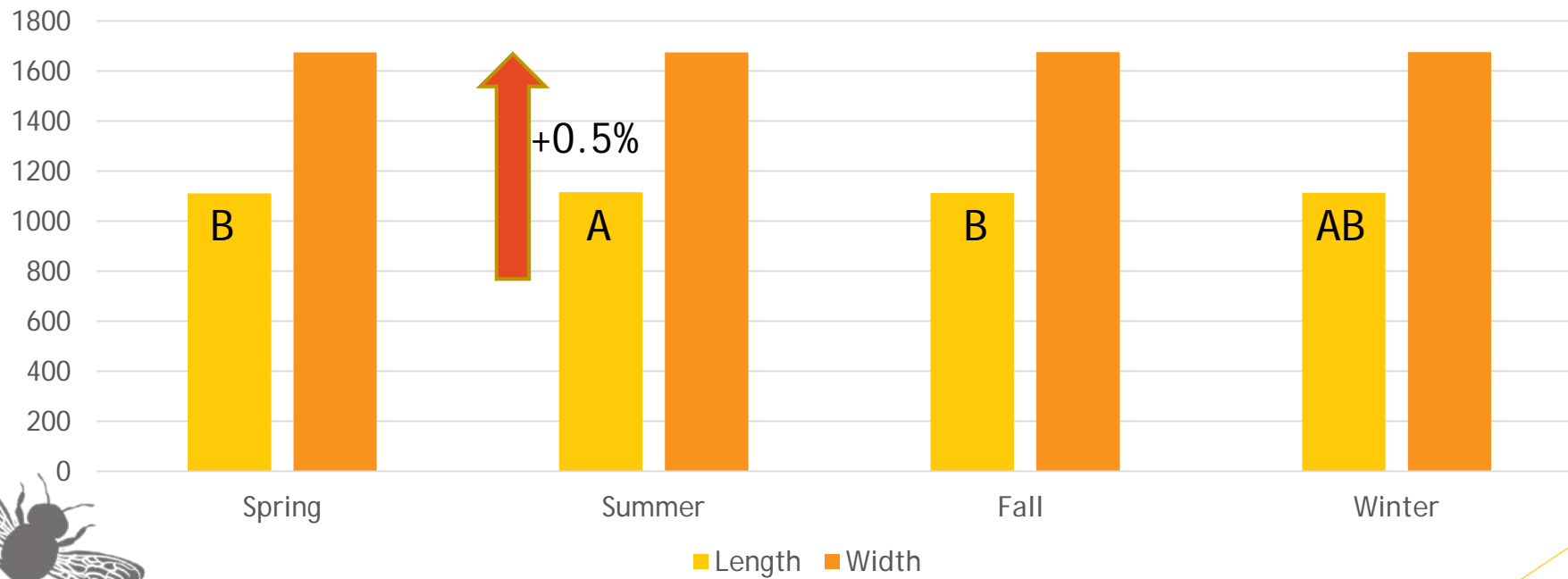
HEALTHY HIVES

2020



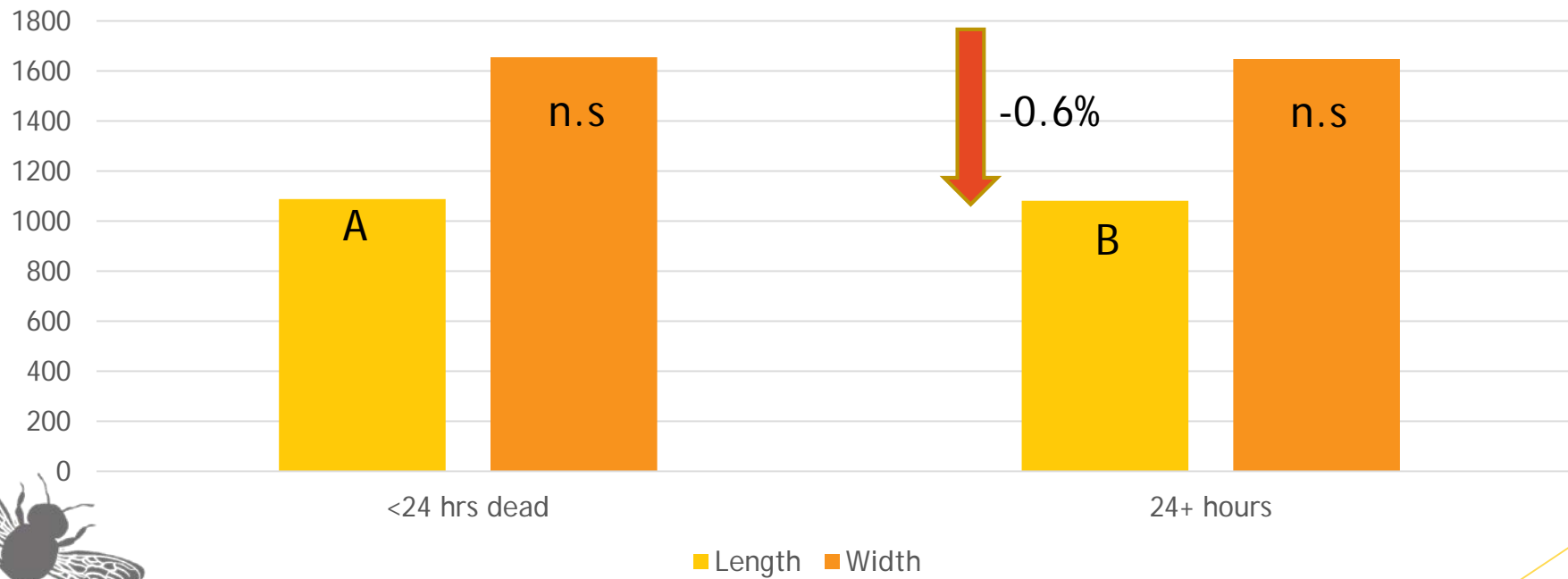
Mite size over season.

Length and Width of Varroa over season



Mite size and treatment

Varroa size by Amitraz sensitivity



Take home

- ▶ Mite size changes between
 - ▶ Years
 - ▶ Seasons
 - ▶ Countries
- ▶ Changes in length more pronounced
- ▶ Shorter mites more resistant to varroacide exposure??





Thanks!