

In vitro queen rearing in stingless bees and their use for colony multiplication



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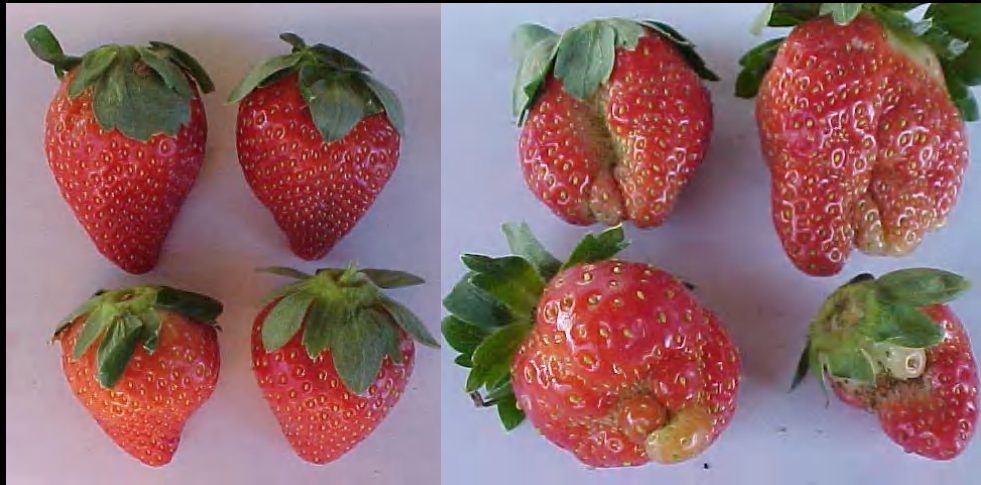








Crop Pollination



Production of colonies in large scale

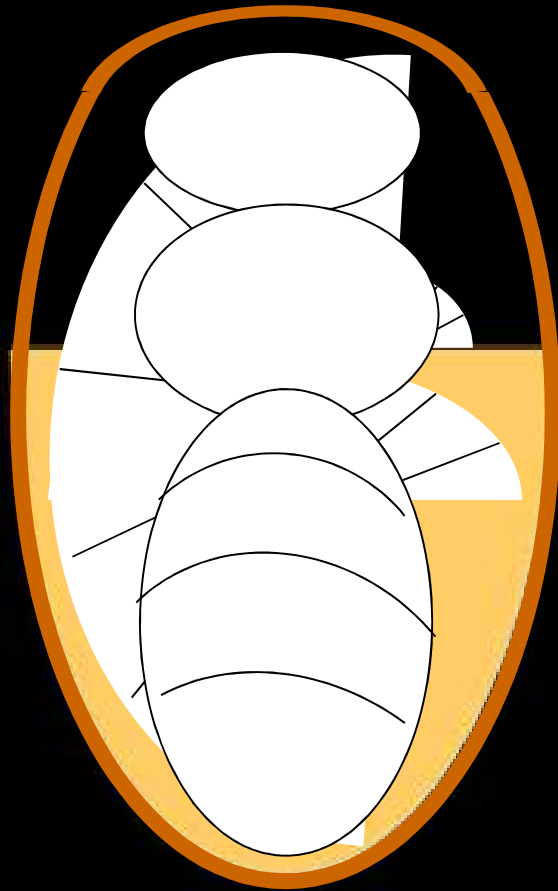
Applied researches are needed to improve the techniques of colony multiplication and management

Main issues studied

- In vitro queen rearing
- Establishment of new colonies with small amount of biological material
- Controlled mating

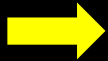


Larval feeding

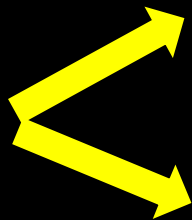




2n



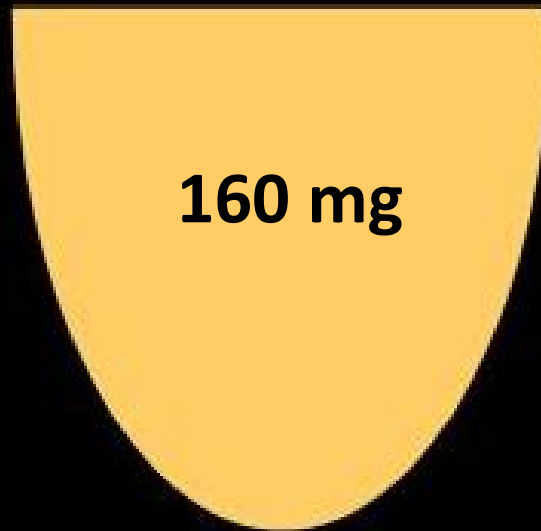
2n



40 mg



2n



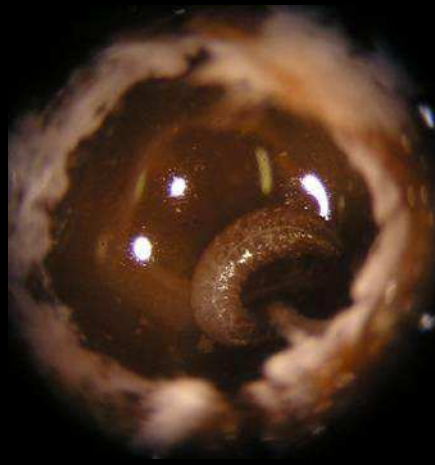
160 mg



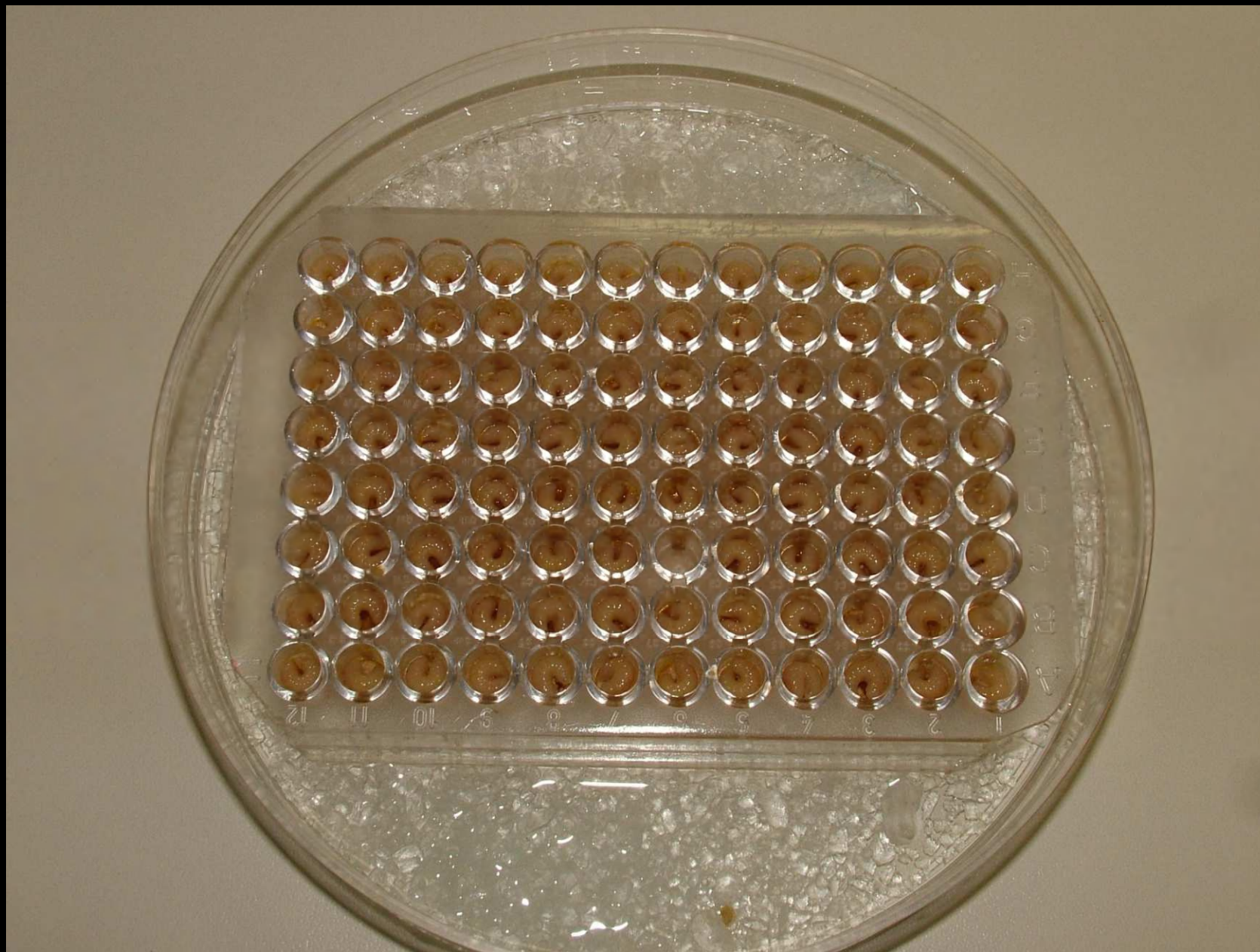
2n



Conceição Camargo (1972)



New improvements

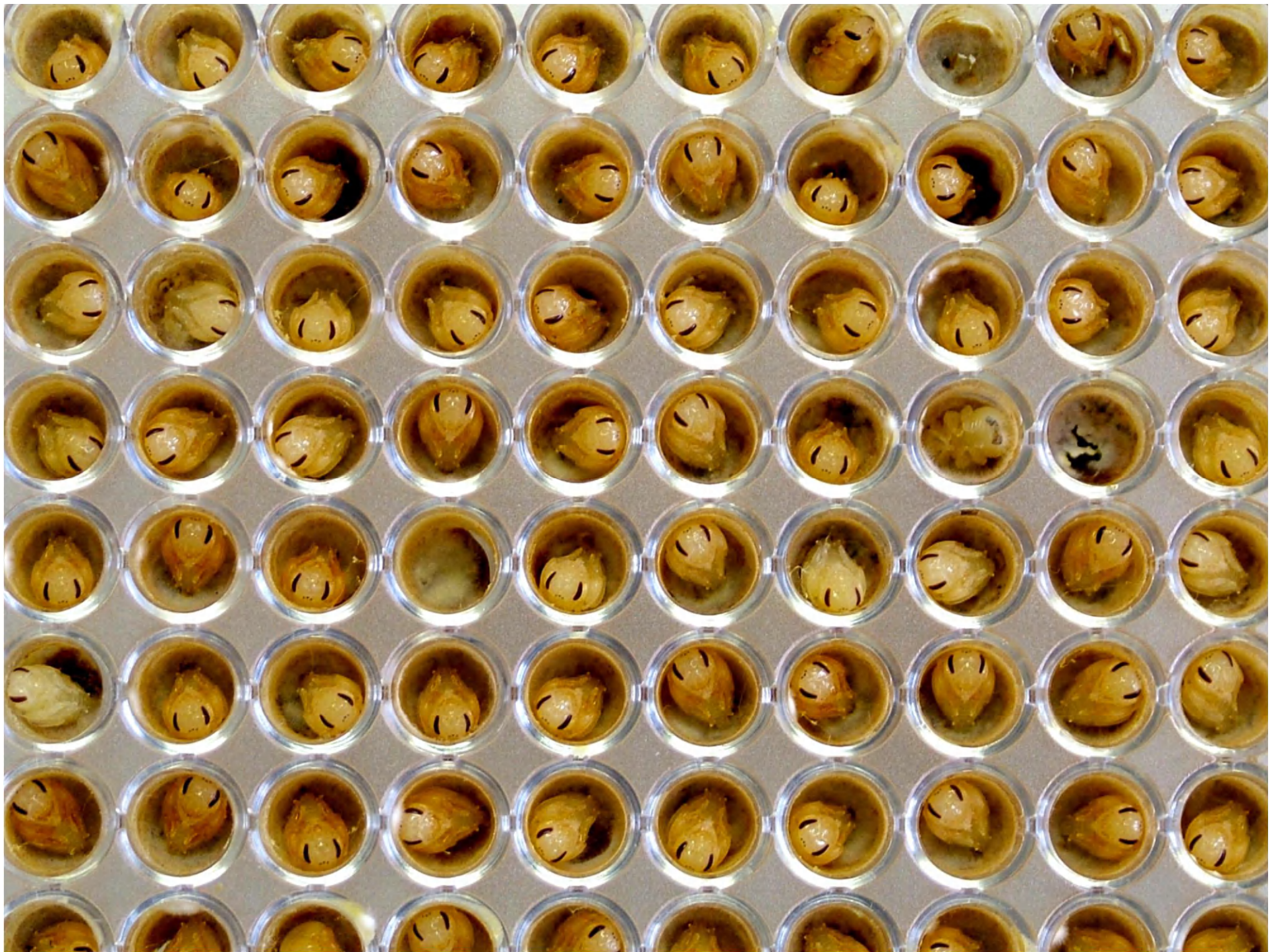


Humidity control

Ideal conditions to rear queens of *Scaptotrigona depilis*

100% during the first six days

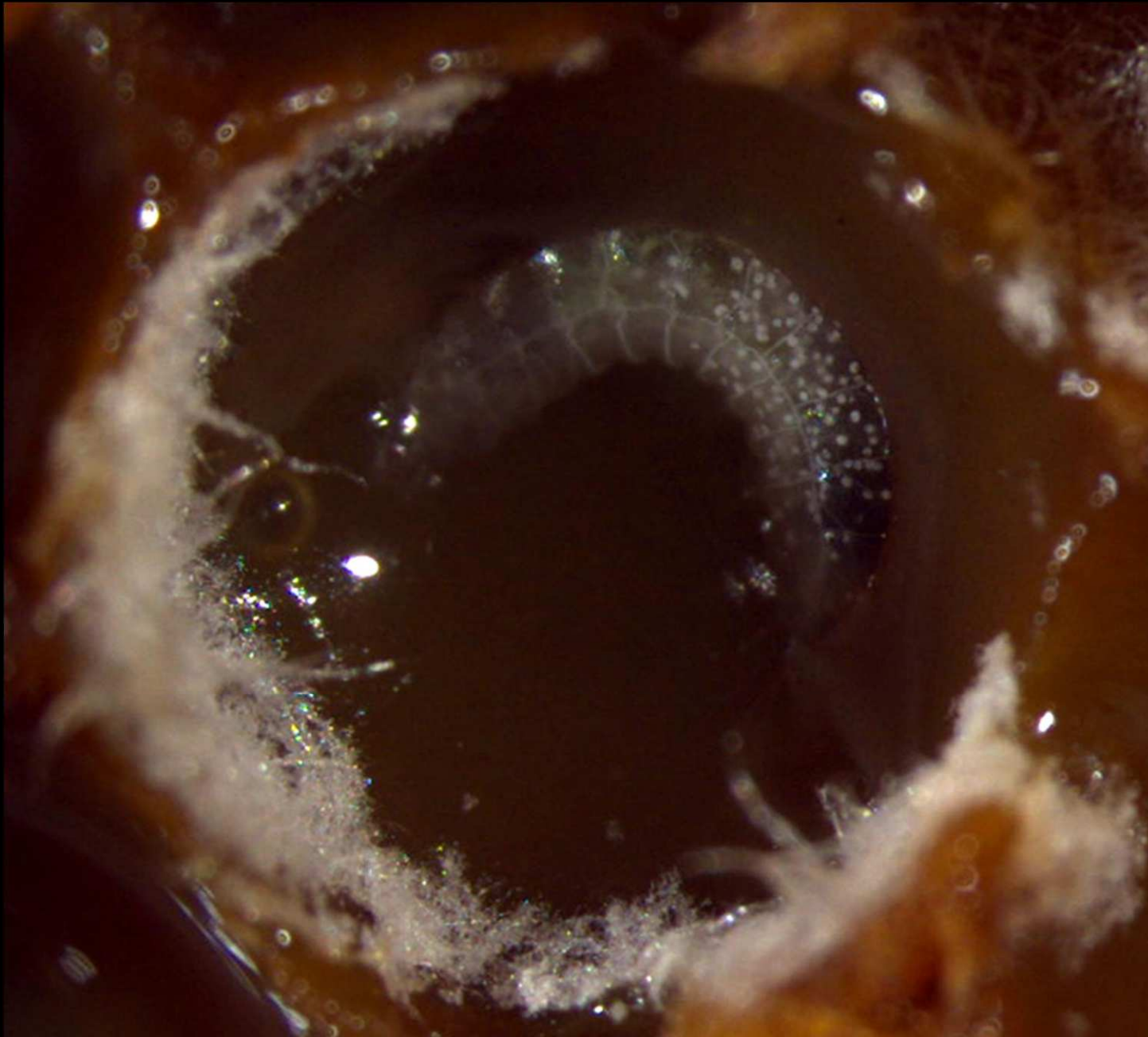
75% during the rest of larval and pupae development



Fungi always grow at in vitro conditions



But also grow at natural brood cells





Larvae depend on fungi to survive

High amount of fungus: 100 out of 150

Low amount of fungus: 38 out of 150

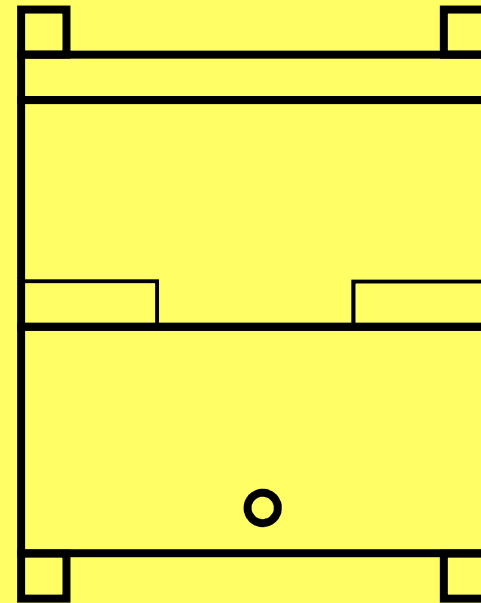
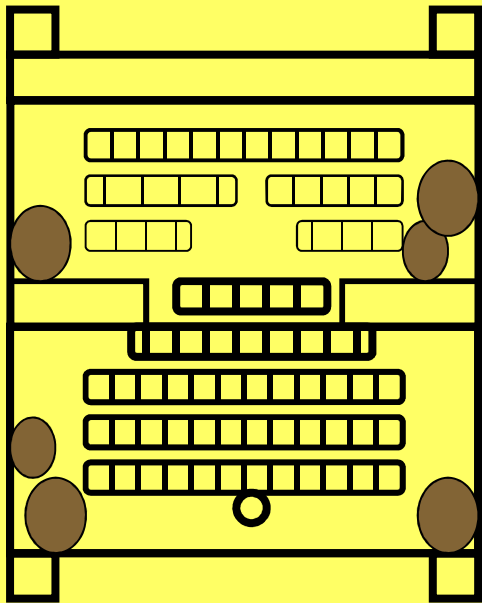
Without fungus: 8 out of 200



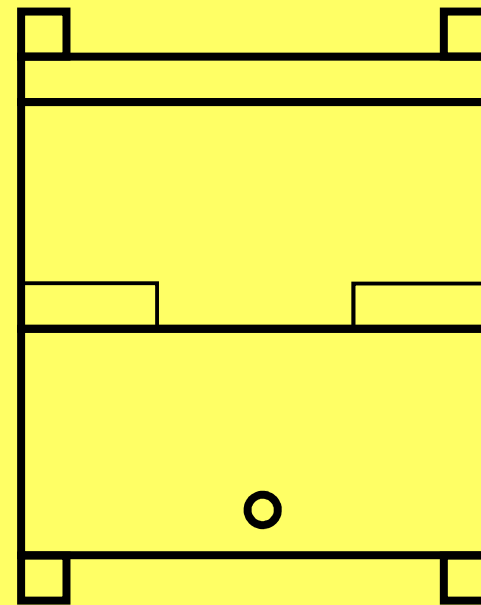
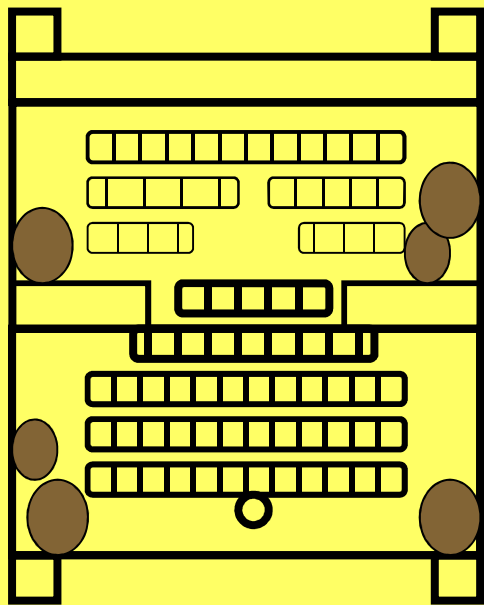
And then?



Tradicional methods



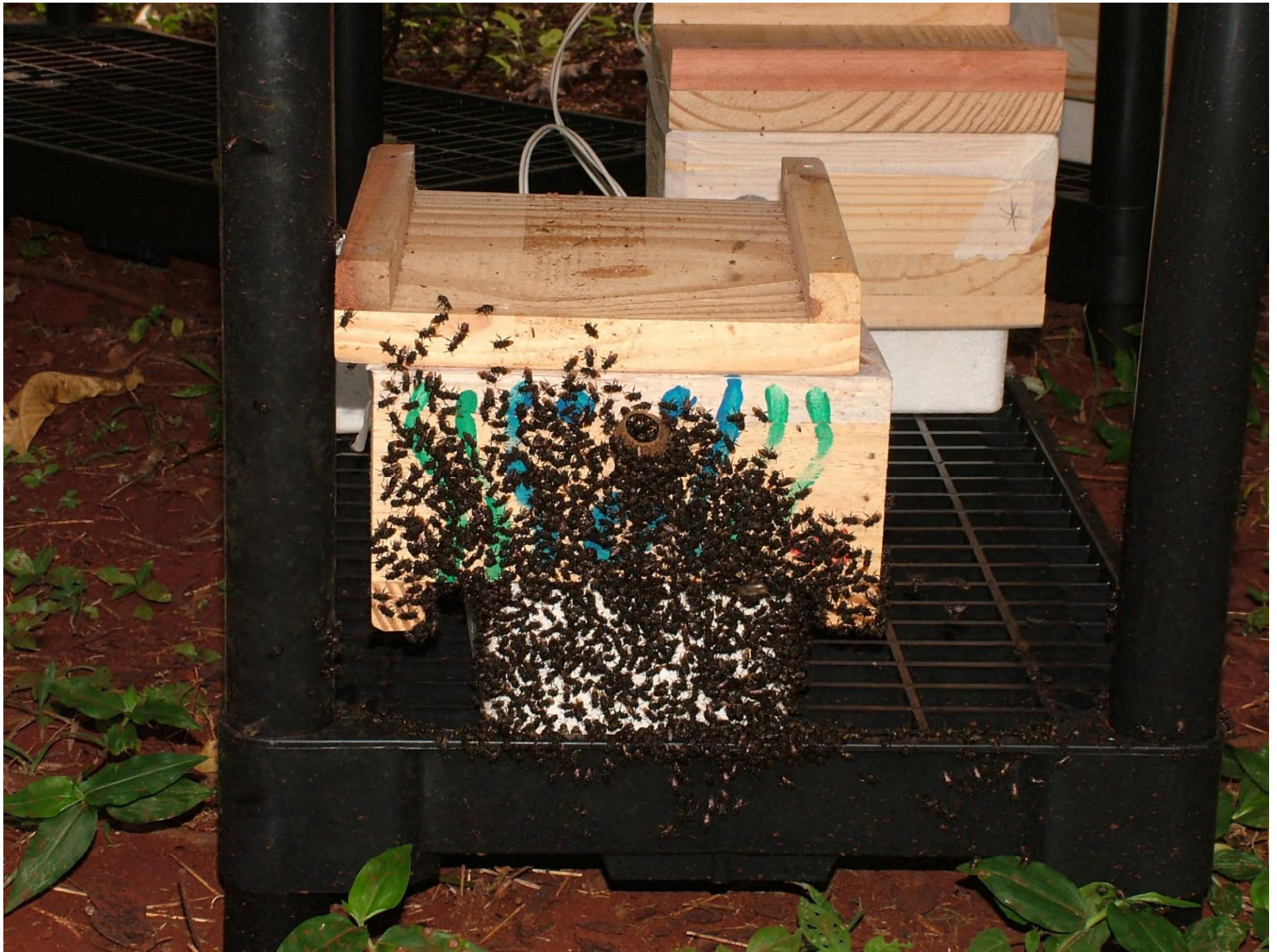
New multiplication methods



Use of 5 to 10% of materials from mother colony







**It is possible to establish new colonies
from small amount of biological material**

13 out of 50 trials resulted in normal colonies after 6 months



Controlled mating











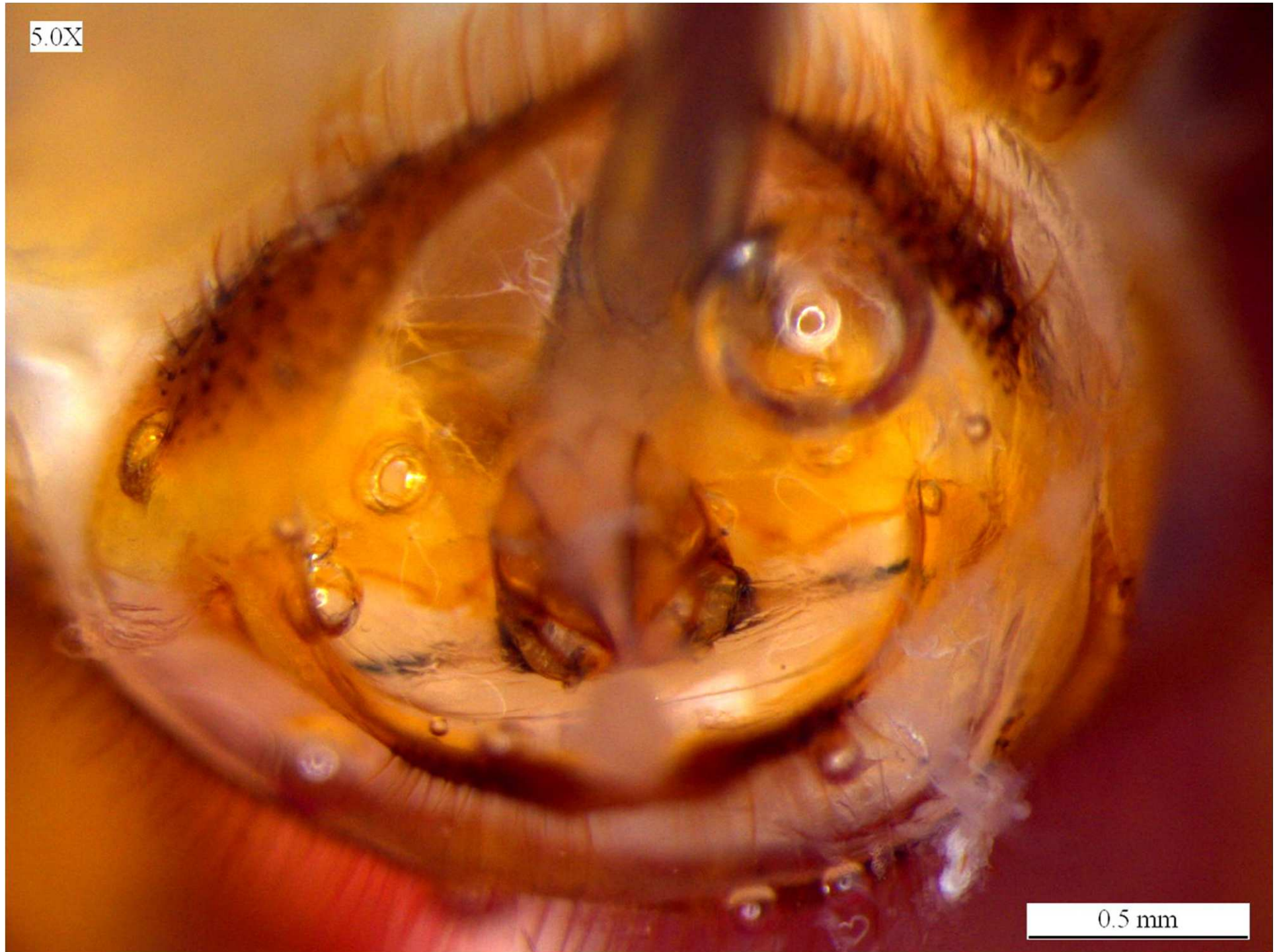








5.0X



0.5 mm

Perspectives...



Hayo H. W. Velthuis & Adriaan van Door







Thank you for the attention!



Support: Fapesp; CNPq; Capes; USP-FFCLRP

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Publications and presentations: www.webbee.org.br/bioabelha