Artropodi: ospiti **desiderati** **o** **indesiderati** degli ambienti urbani

Francesco Porcelli
DiSSPA Entomologia e Zoologia

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

Associazione Italiana Societa' Scientifiche Agrarie

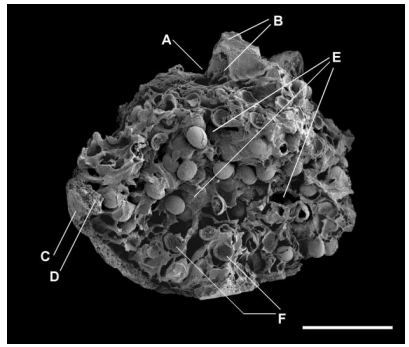
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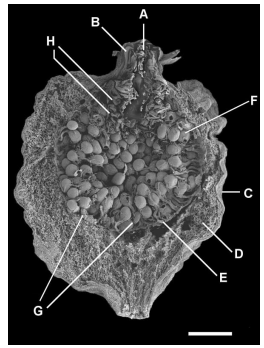
XIX Convegno AISSA
con la partecipazione della Conferenza di A.G.R.A.R.I.A.
Produrre, trasformare e distribuire beni e servizi agro- forestali per le popolazioni urbane, la sfida del XXI secolo
Bari, 24-25 febbraio 2022

Imenotteri impollinatori e non dei *Ficus carica* e *F. sycomorus*

In spite of the absence of spontaneous trees and their pollinating wasp in Egypt at present, it seems that *F. sycomorus* was brought into domestication in Egypt (Galil et al. 1976): 131. The Mediterranean wild-feral-domesticated *F. carica* species-complex is closely related… Taxonomically… single natural group within the genus *Ficus*… an enormous genus comprising some 800 species distributed mostly in the tropics… large figs grow … forests of the Colchic … of northern Turkey and … district of Iran and adjacent Caucasia. These forest types intergrade with the typical Mediterranean *F. carica*: 126.

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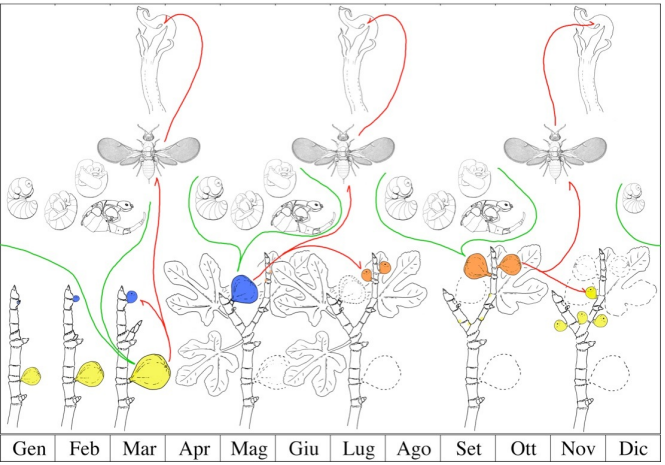




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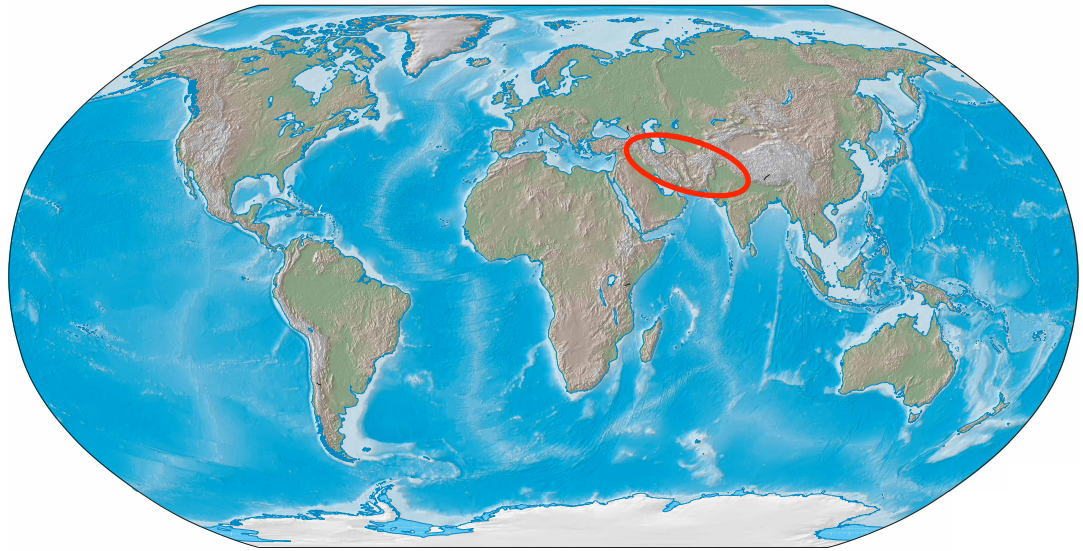
















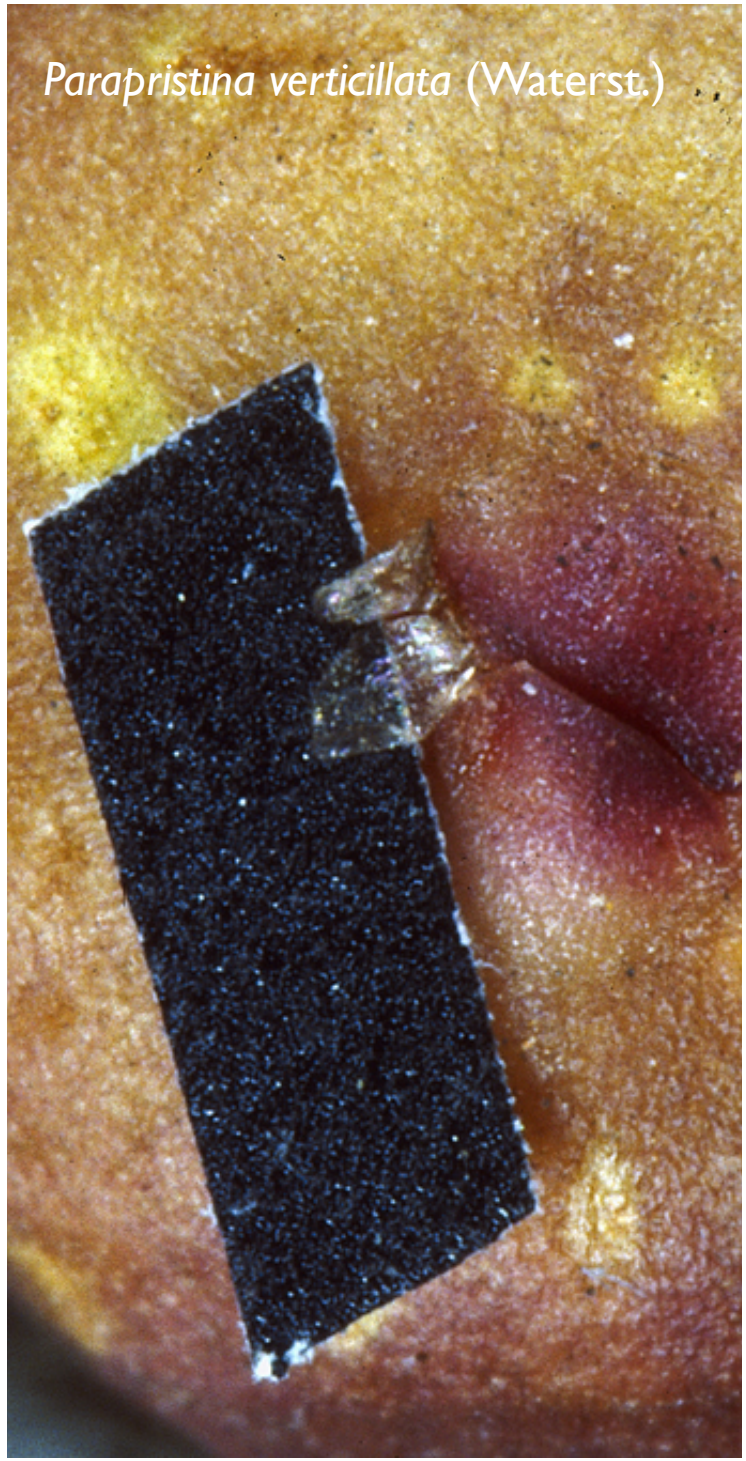


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Ficus microcarpa L. (1782)



Parapristina verticillata (Waterst.)

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The impact of fig wasps (Chalcidoidea), new to the Mediterranean, on reproduction of an invasive fig tree *Ficus microcarpa* (Moraceae) and their potential for its biological control

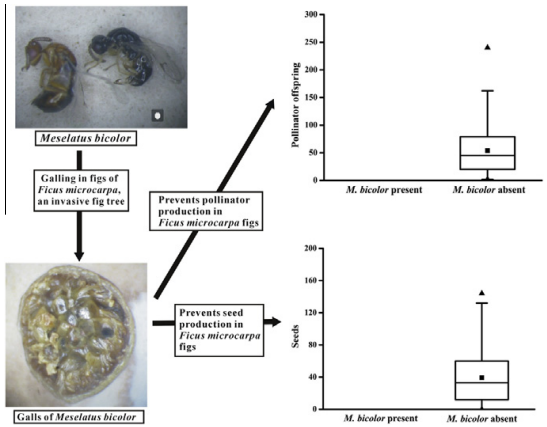
Rong Wang [a,b], Robert Aylwin [a], James Cobb [a], Lamara Craine [a], Salah Ghana [a], J. Alfredo Reyes-Betancort [c], Rupert J. Quinnell [a], Stephen G. Compton [a,d,*]

[a] *School of Biology, University of Leeds, Leeds LS2 9JT, UK*
[b] *School of Resources Ecological and Environmental Sciences, Tiantong National Station of Forest Ecosystem, Shanghai Key Lab for Urban Ecological Processes and Eco-Restoration, East China Normal University, Dongchuan Road 500, Shanghai 200241, China*
[c] *Unidad de Botánica Aplicada, Instituto Canario de Investigaciones Agrarias, Jardín de Aclimatación de La Oratava, c/Retama 2, 38400 Puerto de la Cruz, Santa Cruz de Tenerife, Spain*
[d] *Department of Zoology & Entomology, Rhodes University, Grahamstown 6140, South Africa*

HIGHLIGHTS

- We surveyed fig wasps associated with *Ficus microcarpa*, an Asian invasive fig tree.
- Nine Asian fig wasp species were recorded in the Mediterranean.
- *Meselatus bicolor* was found abundantly and for the first time outside China.
- *Meselatus bicolor* prevents any pollinator and seed production in occupied figs.
- *Meselatus bicolor* appears an excellent candidate for biocontrol of *Ficus microcarpa*.

GRAPHICAL ABSTRACT





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Odontofroggatia galili Wiebes

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Ficus rubiginosa Desf. ex Vent.







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F. rubiginosa Desf. ex Vent.













Pleistodontes imperialis Saunders











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F. rubiginosa Desf. ex Vent.

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Ficus elastica Roxb. ex Hornem. 1819 not Roxb. 1832 nor Roxb. 1814





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Ficus pumila L. (1753)





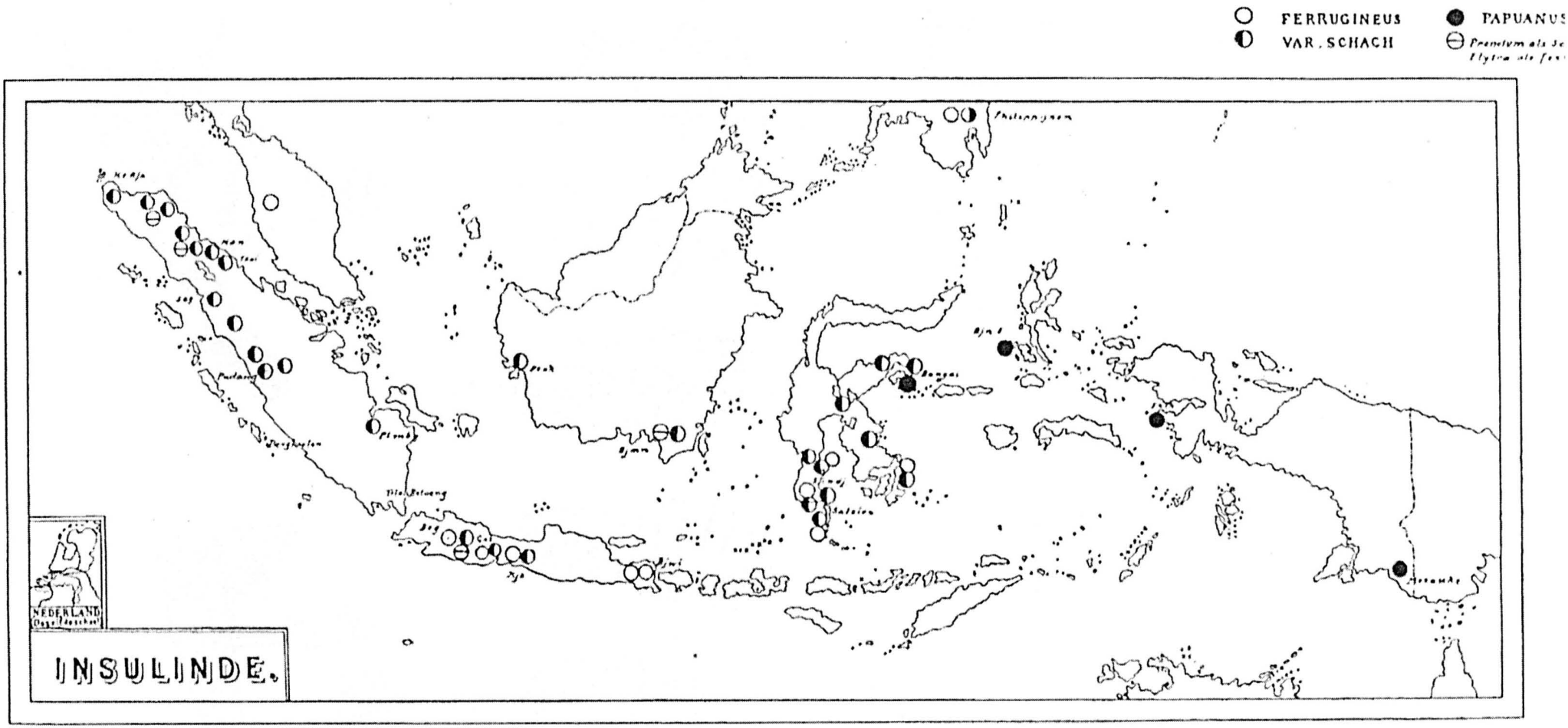
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Rhynchophorus ferrugineus Olivier

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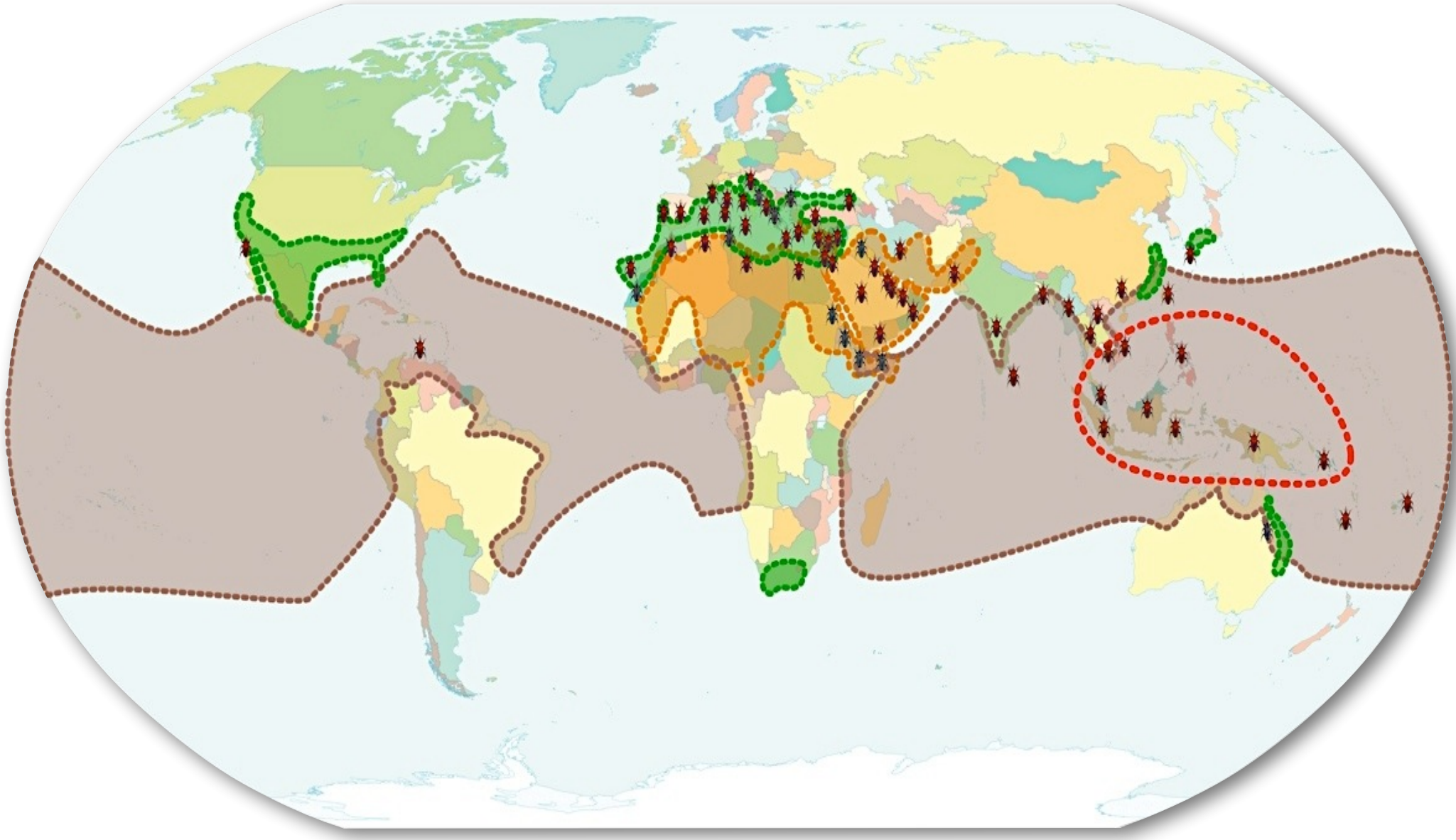


Verspreiding der Rhynchophorusvormen in den Archipel.

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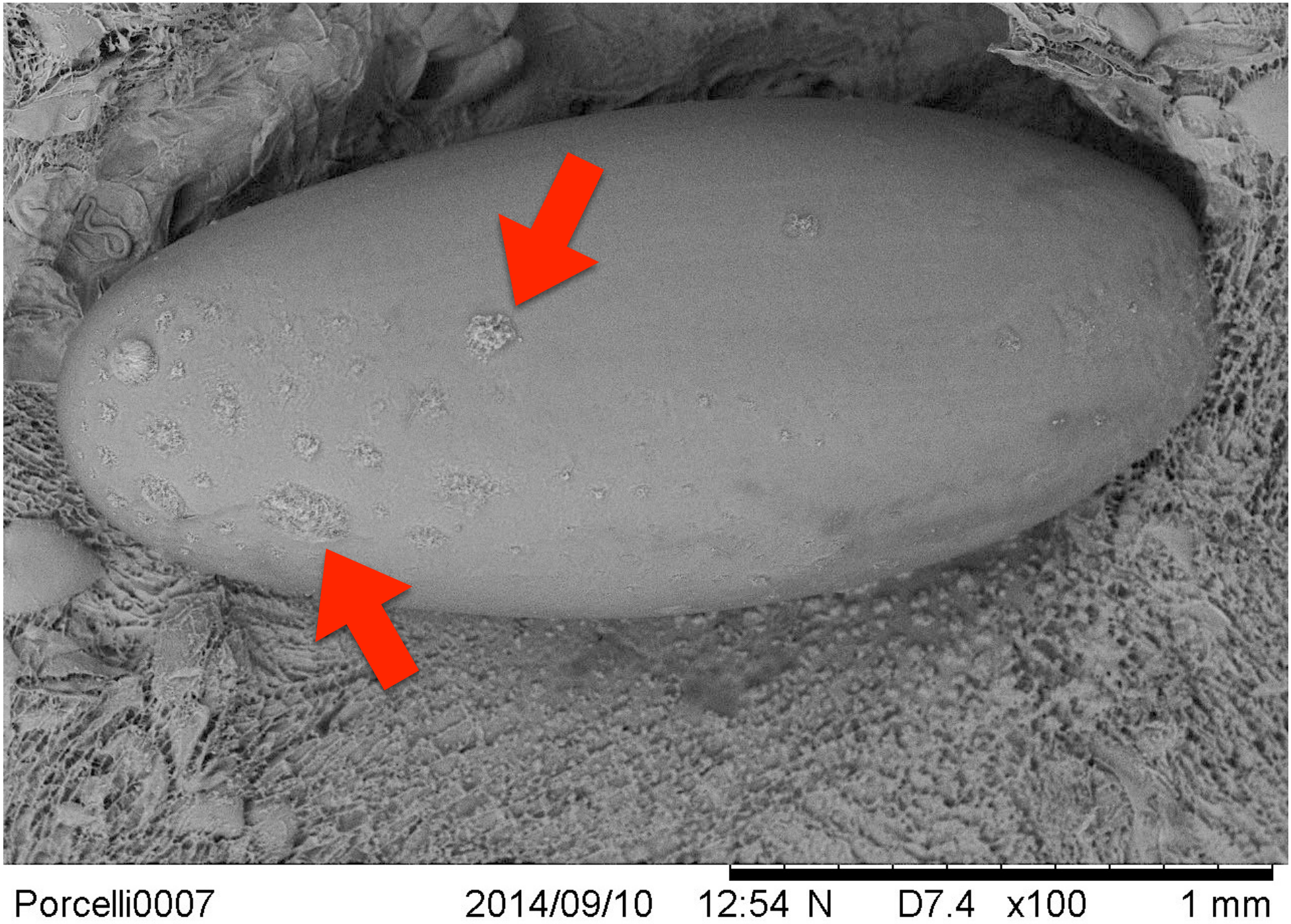
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Coconut, Date Palm, to urban Canary Palms.



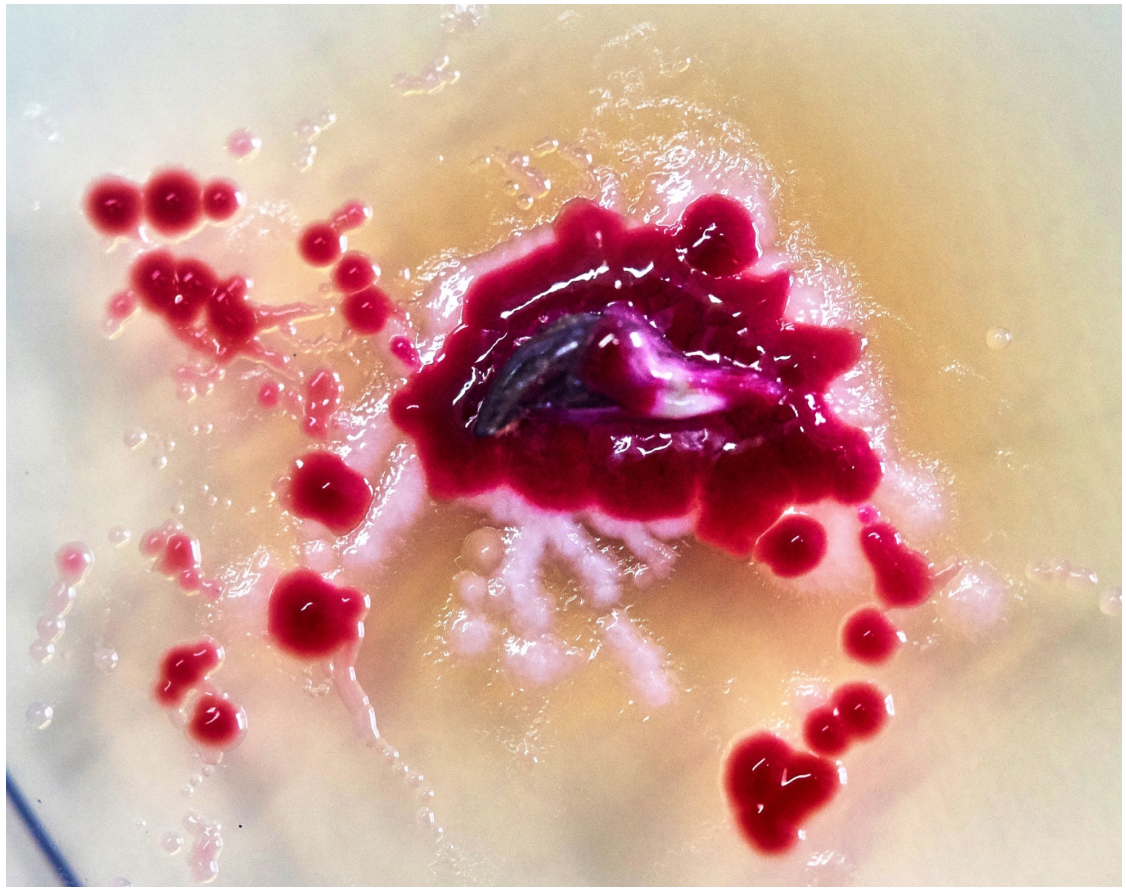
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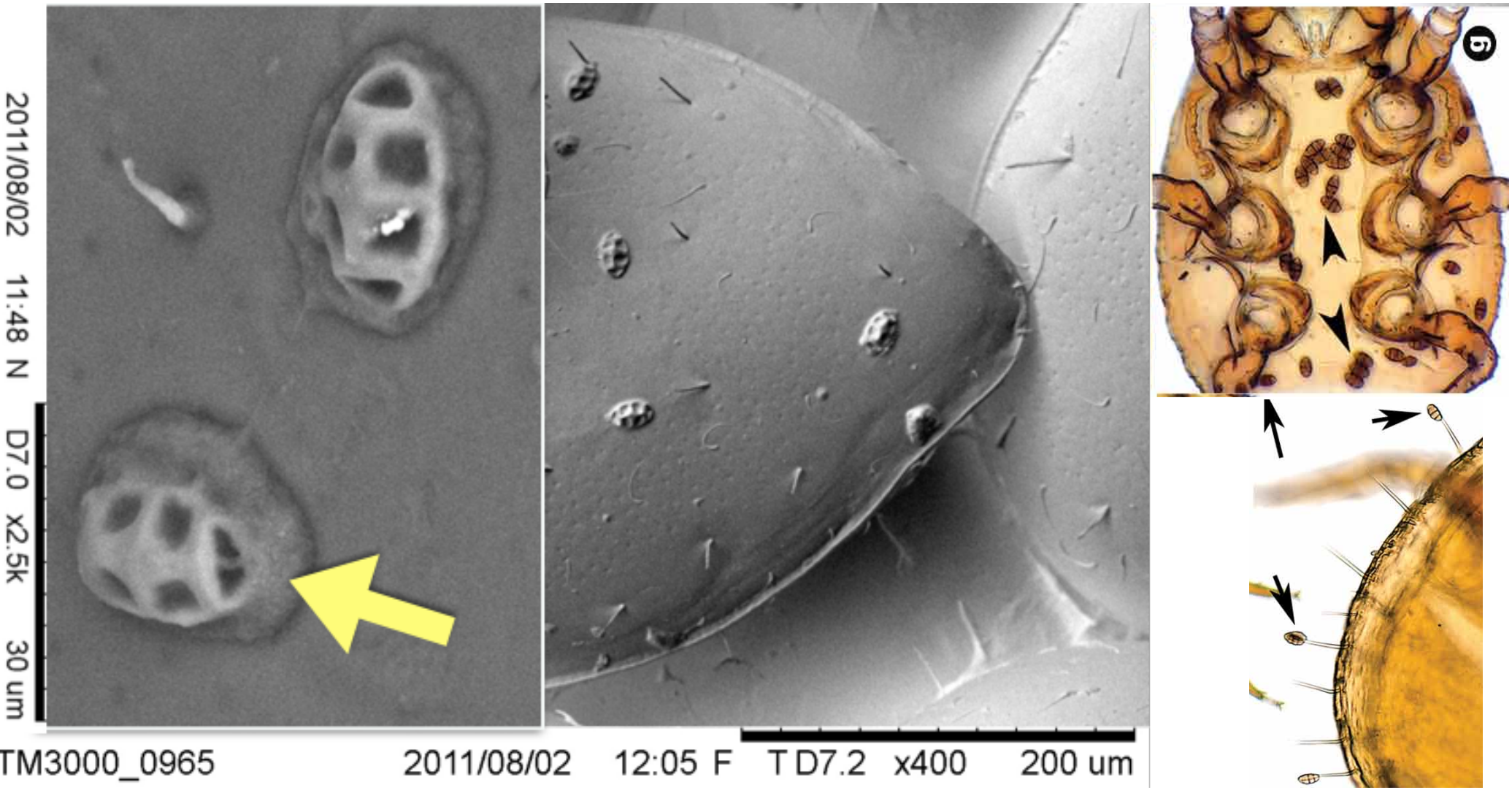
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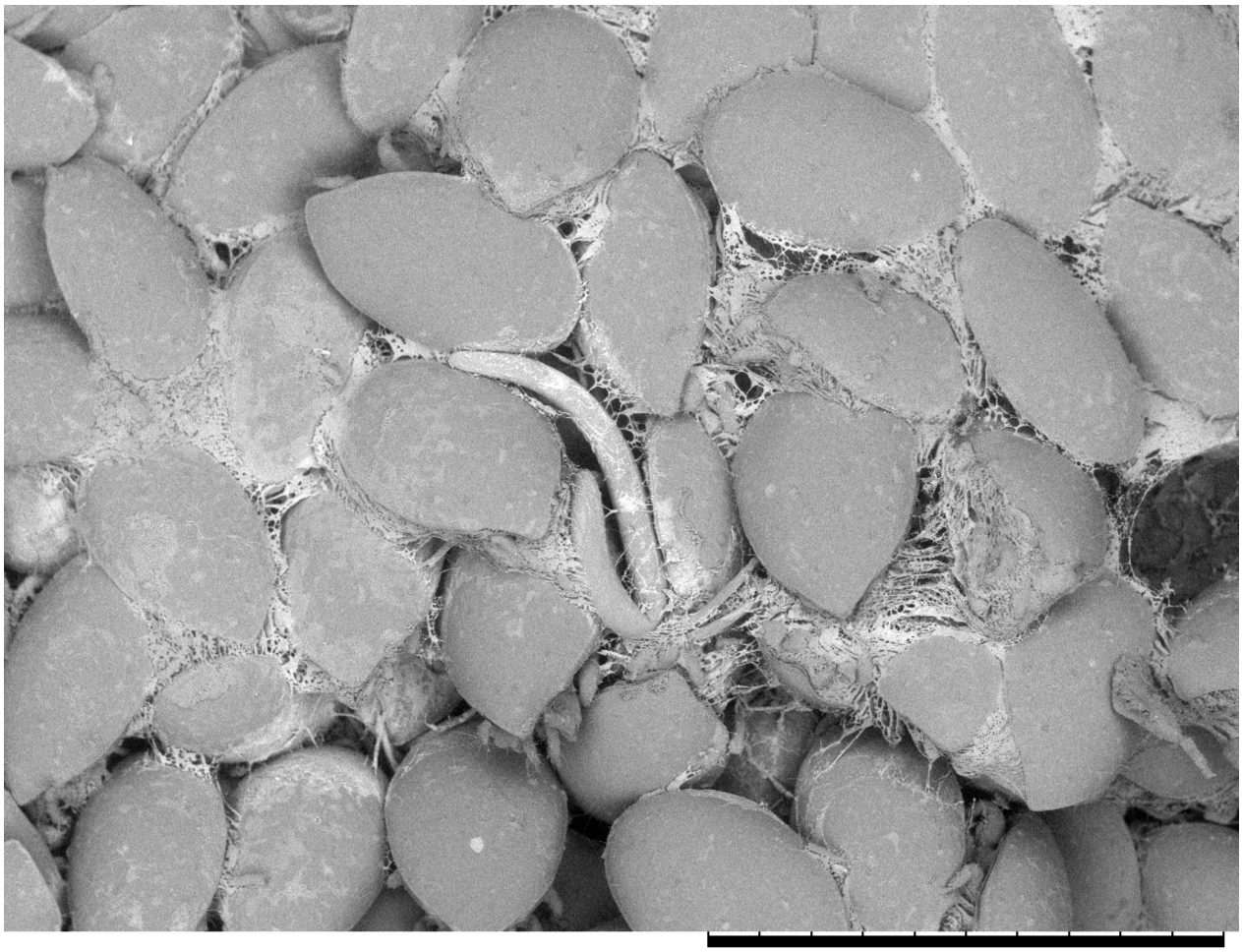


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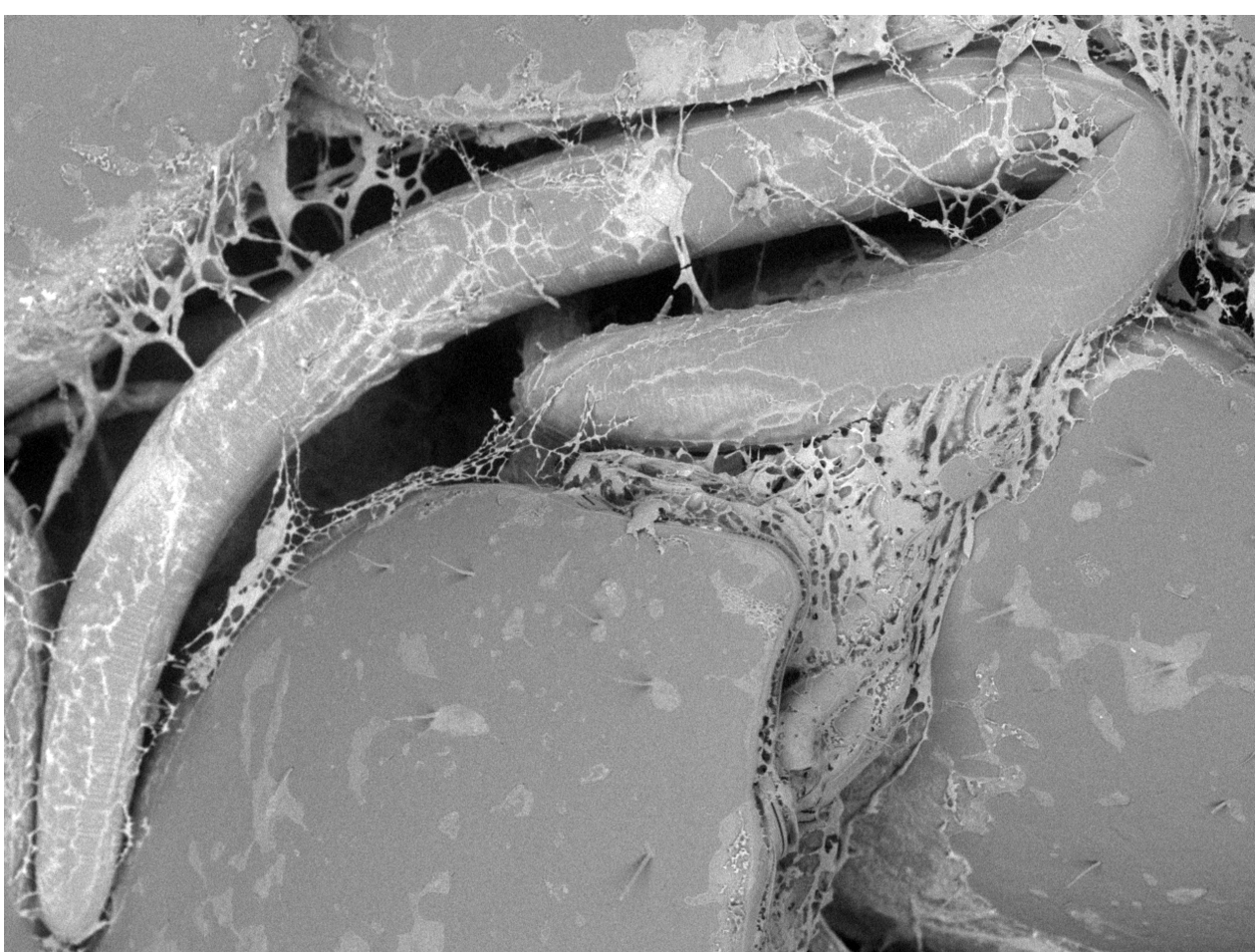

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TM3000_0965 2011/08/02 12:05 F T D7.2 x400 200 um
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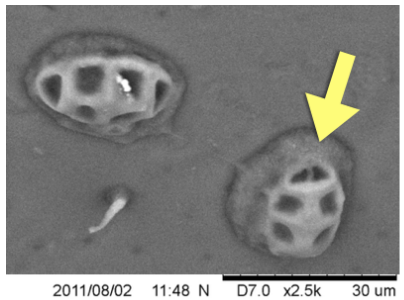


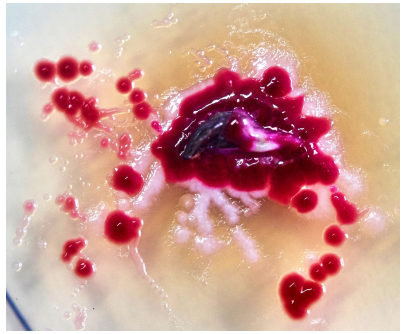
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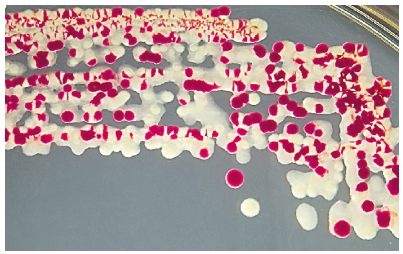


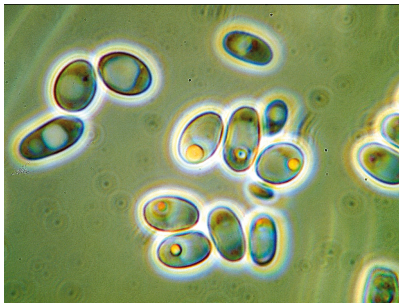
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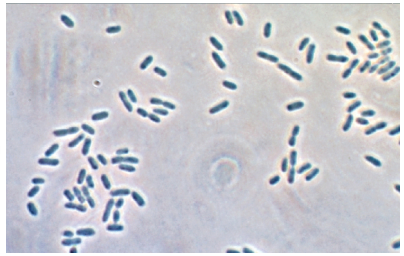






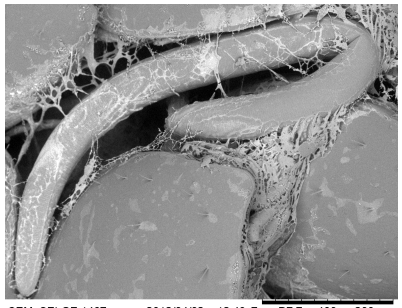


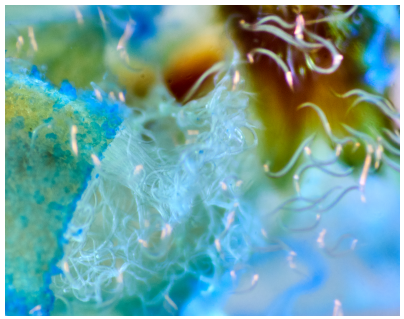


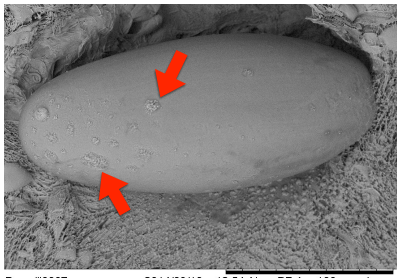












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Macrohomotoma gladiata Kuwayama

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Macrohomotoma gladiata Kuwayama



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Macrohomotoma gladiata Kuwayama

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Zelus renardii Kolenati

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Zelus renardii Kolenati

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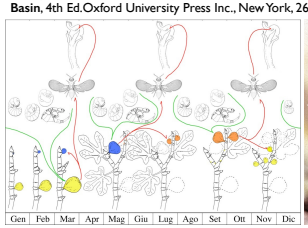


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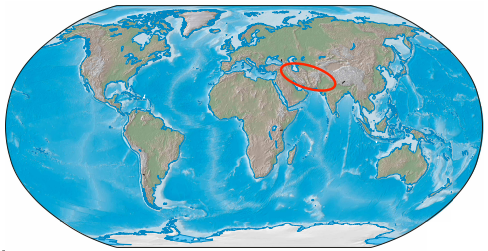
Imenotteri impollinatori e non dei *Ficus carica* e *F. sycomorus*

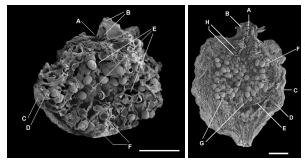
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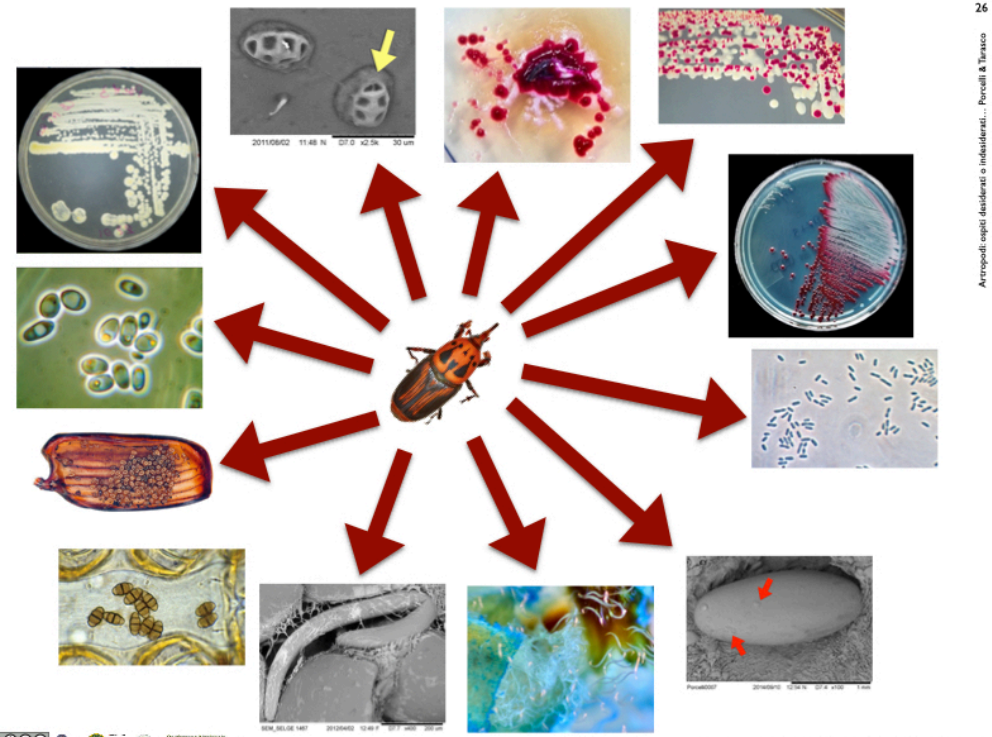








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Molti degli ospiti degli ambienti urbani ci sono indifferenti, con altri abbiamo relazioni risalenti alla preistoria.

Preoccupano gli artropodi vettori o carrier di microrganismi, ma…

Qualche volta gli ambienti urbani accolgono specie che possono rivelarsi utili.

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Icerya purchasi Maskell

Diagnostic characters: This species is known as the cottony cushion scale. **The bodies of nymphs and adults are red, with black antennae and legs, and are covered with a layer of white to cream-colored wax. The adult female carries a fluted ovisac that is produced behind and below the female and may be two to three times as long as the body.**

Nowadays this Australasian species has a cosmopolitan distribution. It is highly polyphagous, having been reported from plants in more than 40 families, in all zoogeographical regions. This species is a hermaphrodite and its males are rare. The females place 600-800 eggs in their ovisacs and the crawlers disperse immediately after hatching. The first and second instar nymphs feed on twigs and leaves, usually along the veins, whereas third instar nymphs and adults feed on branches and tree trunks. Cottony cushion scale rarely infests fruits. In the Mediterranean region it overwinters as adults, nymphs and eggs, and completes three annual generations.

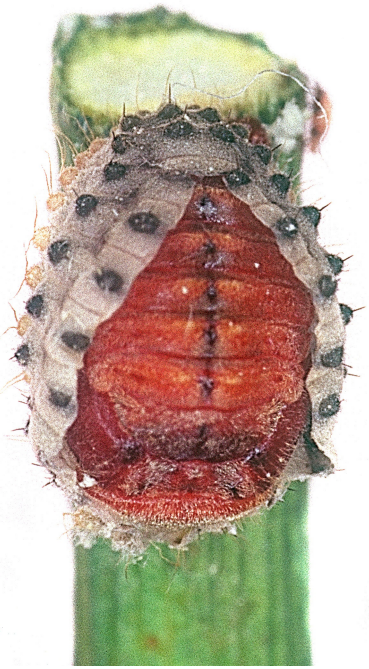
Economic importance: Cottony cushion scale attacks reduce tree vigor. Heavy infestations result in much leaf and fruit drop, along with twig dieback. Furthermore, the excreted honeydew can reduce fruit quality and its market value.

Cottony cushion scale was the first example of a successful classical biological control project. When this species invaded California in the late 19th Century, local authorities from the University of California facilitated the introduction of the coccinelid Vedalia beetle, Rodolia cardinalis Mulsant, from Australia.

This predatory beetle brought about the complete control of the pest within a few months. The Vedalia beetle was then introduced into other parts of the world, including several countries in Mediterranean Region that were invaded by this pest with similar beneficial results. Despite this success, localized, heavy outbreaks of the cottony cushion scale have been reported, especially in northern Mediterranean citrus orchards. In such cases organophosphate treatments are recommended at all periods, except during flowering.



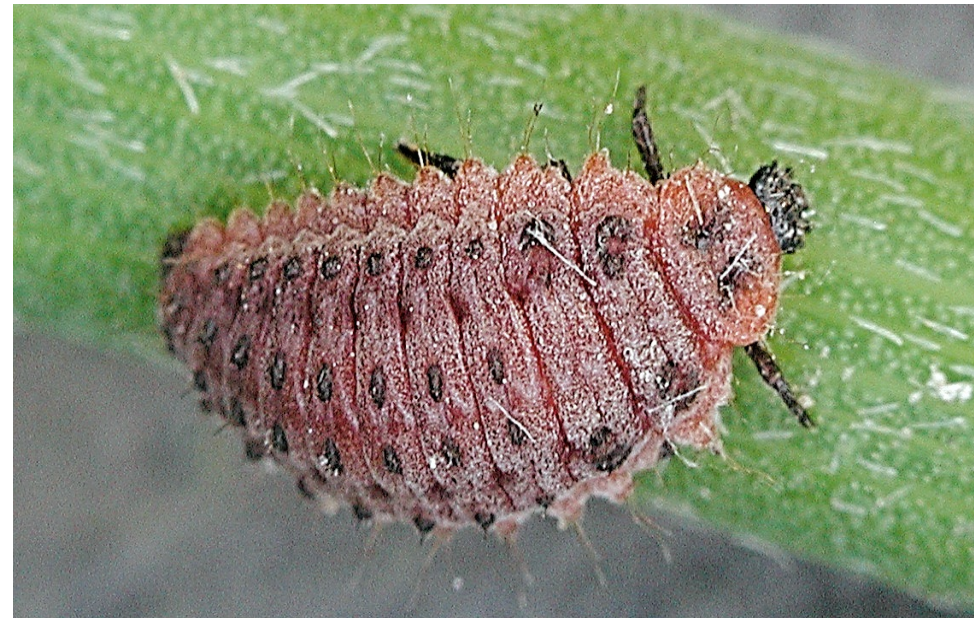
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Cryptolaemus montrouzieri







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