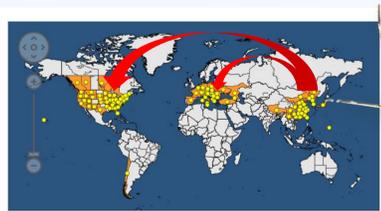
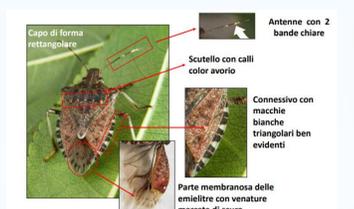


La cimice asiatica, *Halyomorpha halys*



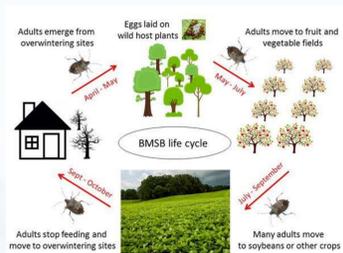
Distribuzione e zona di origine



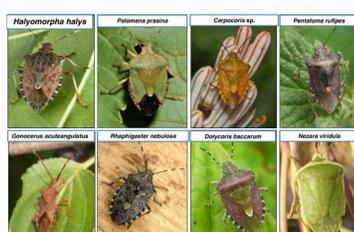
Morfologia dell'adulto



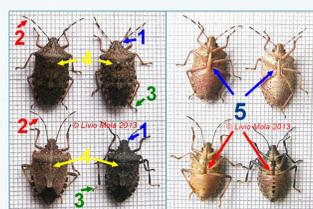
Uova, stadi giovanili e adulti



Ciclo Biologico



Confronto con altre cimici



Differenze con *Rhaphigaster nebulosa* (in alto)

Danni



Esempi di danni a frutti e aggregazione per lo svernamento

Monitoraggio e controllo



Trappola Rescue



Reti multifunzionali su pereto



Il parassitoide delle uova
Trissolcus japonicus

Il cinipide del castagno, *Dryocosmus kuriphilus*



Distribuzione e zona di origine



Adulto di *D. kuriphilus*

Danni



Galle su gemme e foglie di castagno

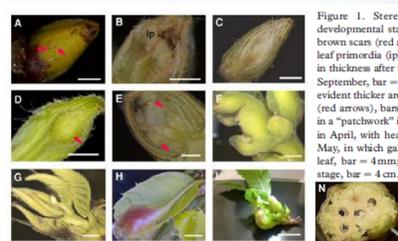


Figure 1. Stereomicrograph of chestnut bud at different developmental stages: (A) apical dormant bud in July with little brown scars (red arrows) in the surface, bar = 2 mm; (B) internal leaf primordia (lp), in the bud in September, with zone increased in thickness after the oviposition, bar = 1 mm; (C) healthy bud in September, bar = 2 mm; (D and E) leaf primordia, in March, with evident thicker areas related to the presence of the larval chamber (red arrows), bars = 1 mm; (F) young bud, in April, transformed in a "patchwork" indistinct of galls, bar = 4 mm; (G) young shoot, in April, with healthy branches, bar = 4 mm; (H) young leaf, in May, in which gall differentiation affected almost all parts of the leaf, bar = 4 mm; (I) galls, in June, at the final developmental stage, bar = 4 cm.

Reale et al., 2016

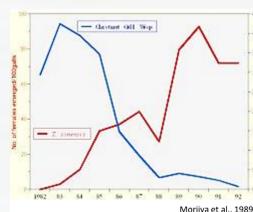
Ciclo Biologico



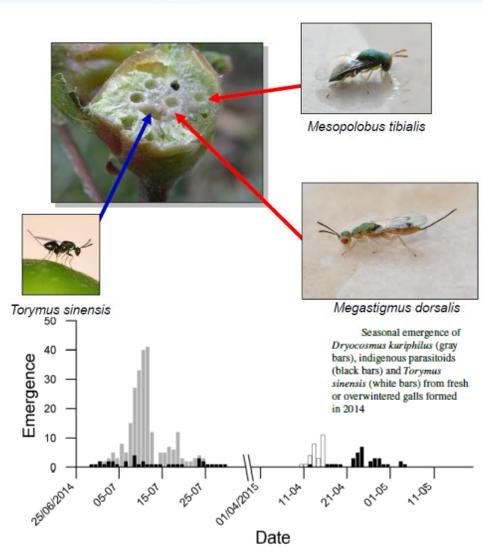
Controllo



Torymus sinensis, l'insetto antagonista del parassita



Moriya et al., 1989

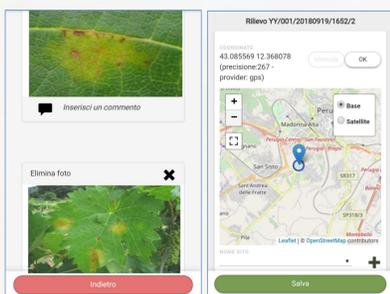


Rondoni et al., 2019

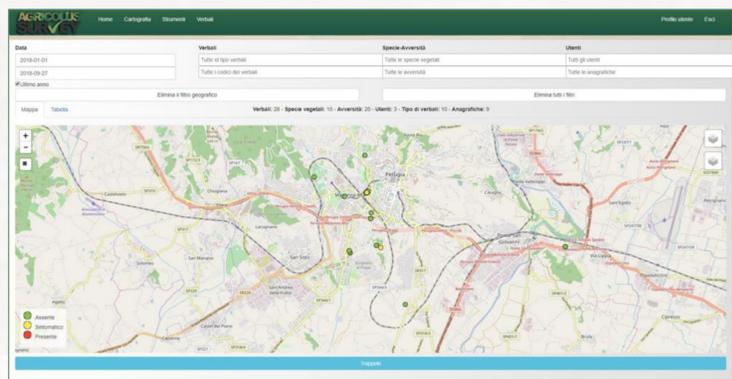
Agricolus Survey: la piattaforma creata per la gestione dei monitoraggi fitosanitari



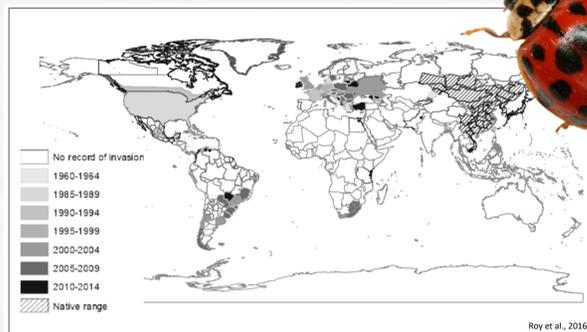
Piattaforma per smartphone



Piattaforma web



La coccinella arlecchino, *Harmonia axyridis*



Distribuzione



Diverse livree di *H. axyridis*

Controllo biologico ed effetti collaterali



Utilizzo di *H. axyridis* per il controllo di afidi



Larve di *H. axyridis* predano altre coccinelle

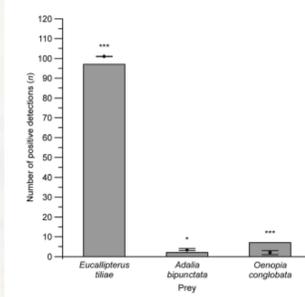


Fig. 3. Observed numbers of *Harmonia axyridis* 4th instars revealed positive for *Eucallipterus tiliae*, *Adalia bipunctata* and *Ctenopoma conglobata* (grey bars) compared with expected production levels (black dots) and 95% confidence intervals (vertical bars). Significant levels are indicated with asterisks (* $P < 0.05$, *** $P < 0.001$).

Rondoni et al., 2015