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The role of wild plants in the epidemiology of fruit tree phytoplasmas and in the ecology of the insect vectors. The case of hawthorn plants.

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COST FA0807 Scientific Meeting
Current status and perspectives of phytoplasma disease research and management
Sitges, Spain, February 1th and 2nd, 2010

“*Ca. Phytoplasma mali*” vectors - wild host plants

HAWTHORN

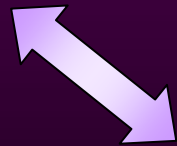


C. melanoneura

REPRODUCTION
&
OVIPOSITION



APPLE



C. picta

AESTIVATION
&
OVERWINTERING

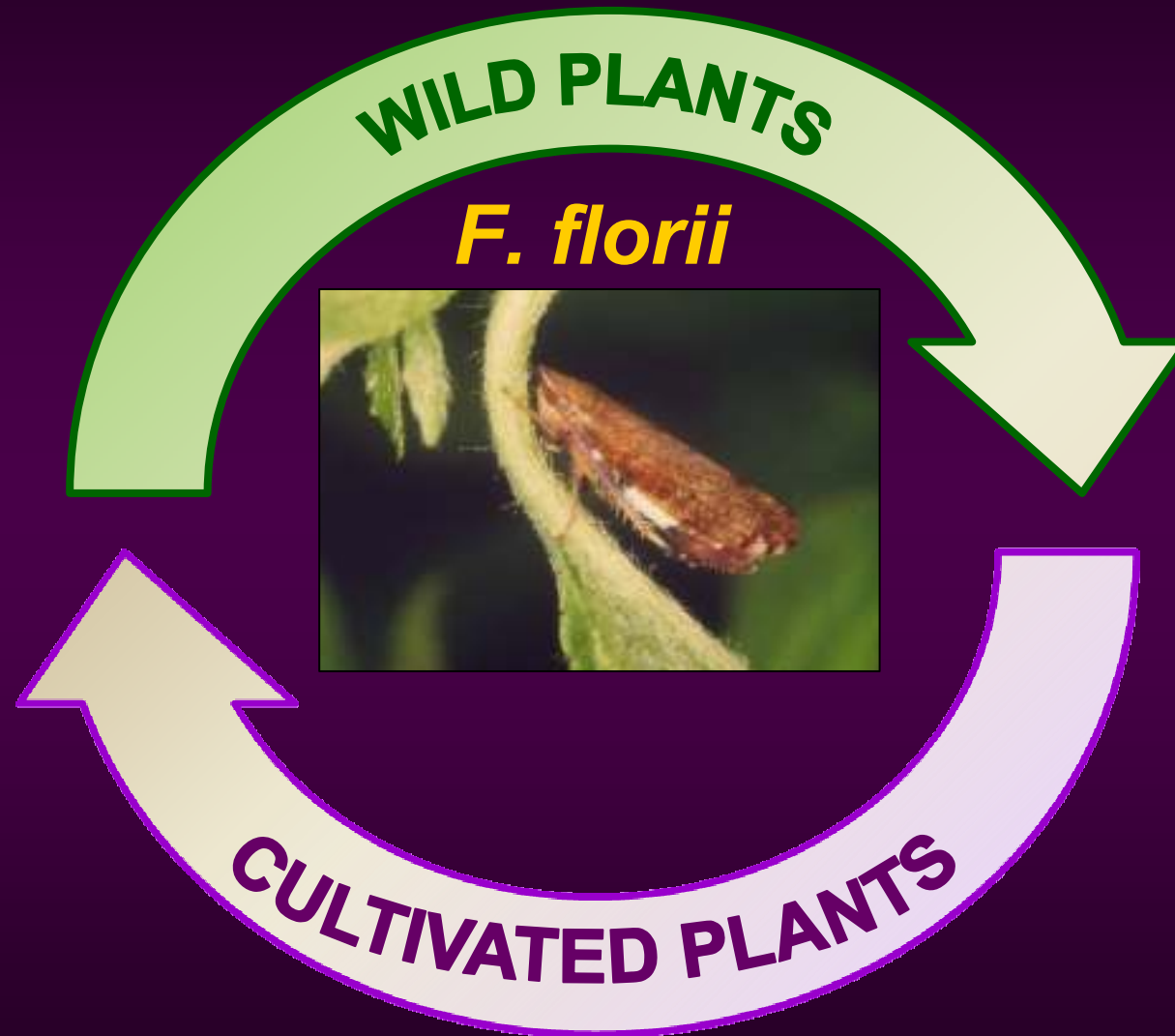


CONIFERS



“Ca. Phytoplasma mali” vectors - wild host plants

**Mainly
Rosaceous**



“Ca. Phytoplasma prunorum” vectors - wild host plants

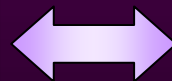
Prunus spinosa



REPRODUCTION
&
OVIPOSITION

AESTIVATION
&
OVERWINTERING

STONE FRUITS



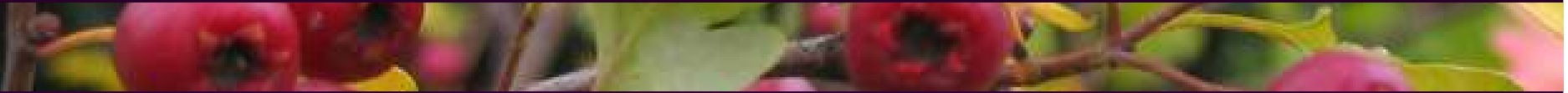
C. pruni



CONIFERS



The case of hawthorn plants



Hawthorn psyllidofauna	Positive 16SrX	16SrX-A	16SrX-B	16SrX-C
<i>C. melanoneura</i> - <i>C. affinis</i> complex	165/929	104/147	0/147	43/147
<i>C. peregrina</i>	48/574	12/35	3/35	20/35
<i>C. crataegi</i>	2/13	1/3	0/3	2/3

16SrX-A= "Ca. Phytoplasma mali", 16SrX-B="Ca. Phytoplasma prunorum", 16SrX-C= "Ca. Phytoplasma pyri"

After morphological analysis of males:

<i>C. affinis</i>	2/50	0/2	2/2	0/2
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Hawthorn plants	Positive 16SrX	16SrX-A	16SrX-B	16SrX-C
<i>Crataegus monogyna</i>	3/20	1/3	0/3	2/3

The case of hawthorn plants



Wild host plant



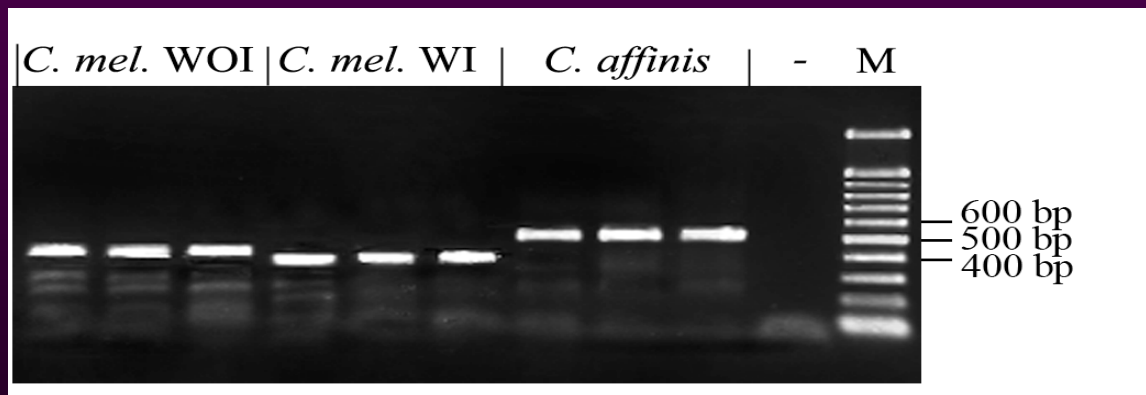
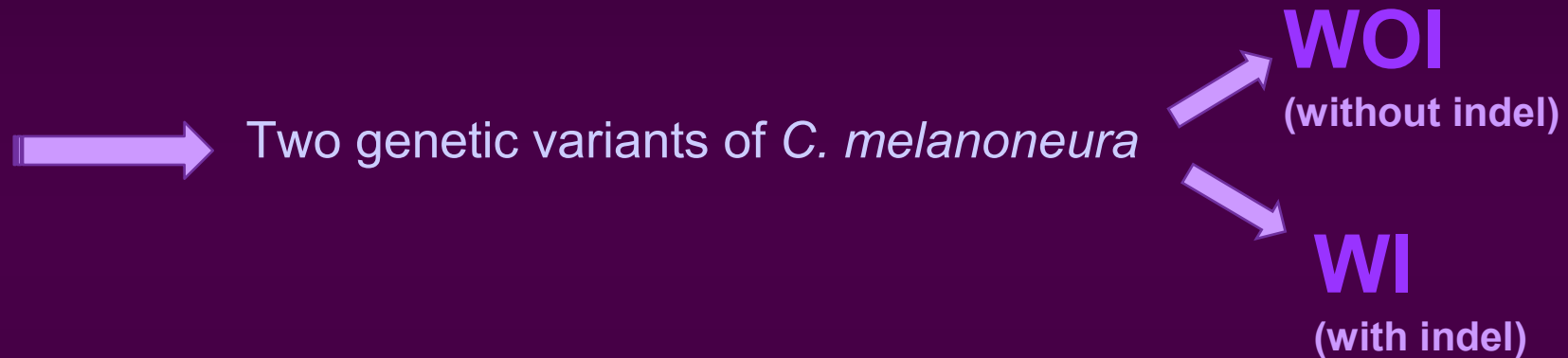
**Biology of the
vector**



**Inoculum source of
phytoplasmas**

The case of hawthorn plants

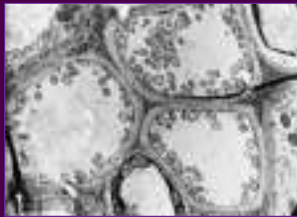
Development of molecular tools to discriminate *C. melanoneura* and *C. affinis*



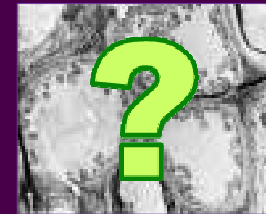
C. melanoneura – *C. picta* – *C. pruni*



FRUIT TREES



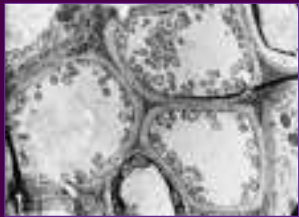
CONIFERS



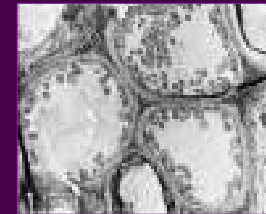
C. melanoneura



APPLE TREES



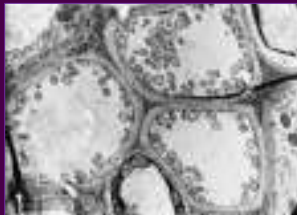
HAWTHORN PLANTS



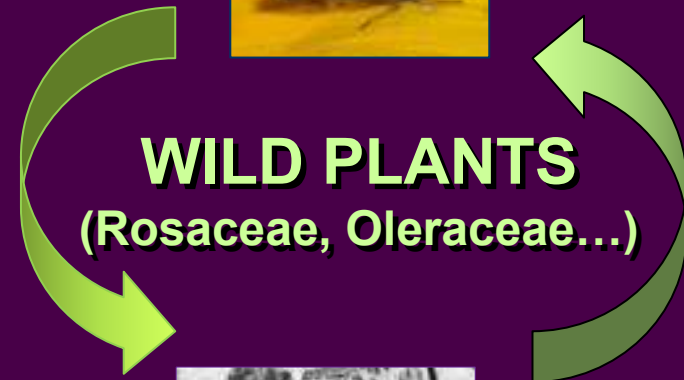
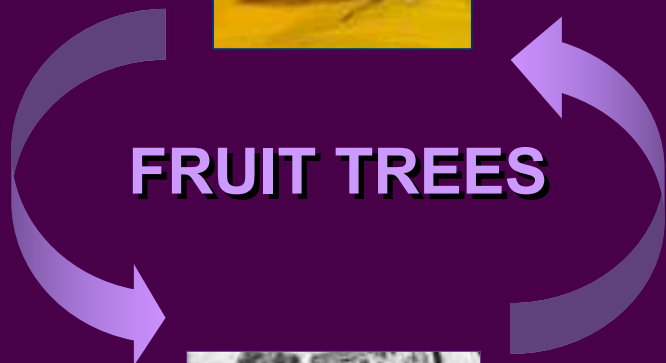
F. florii



FRUIT TREES



WILD PLANTS
(Rosaceae, Oleraceae...)



Thanks for the
attention

