THE QUICK DECLINE SYNDROME OF OLIVE

The Bari Research Team

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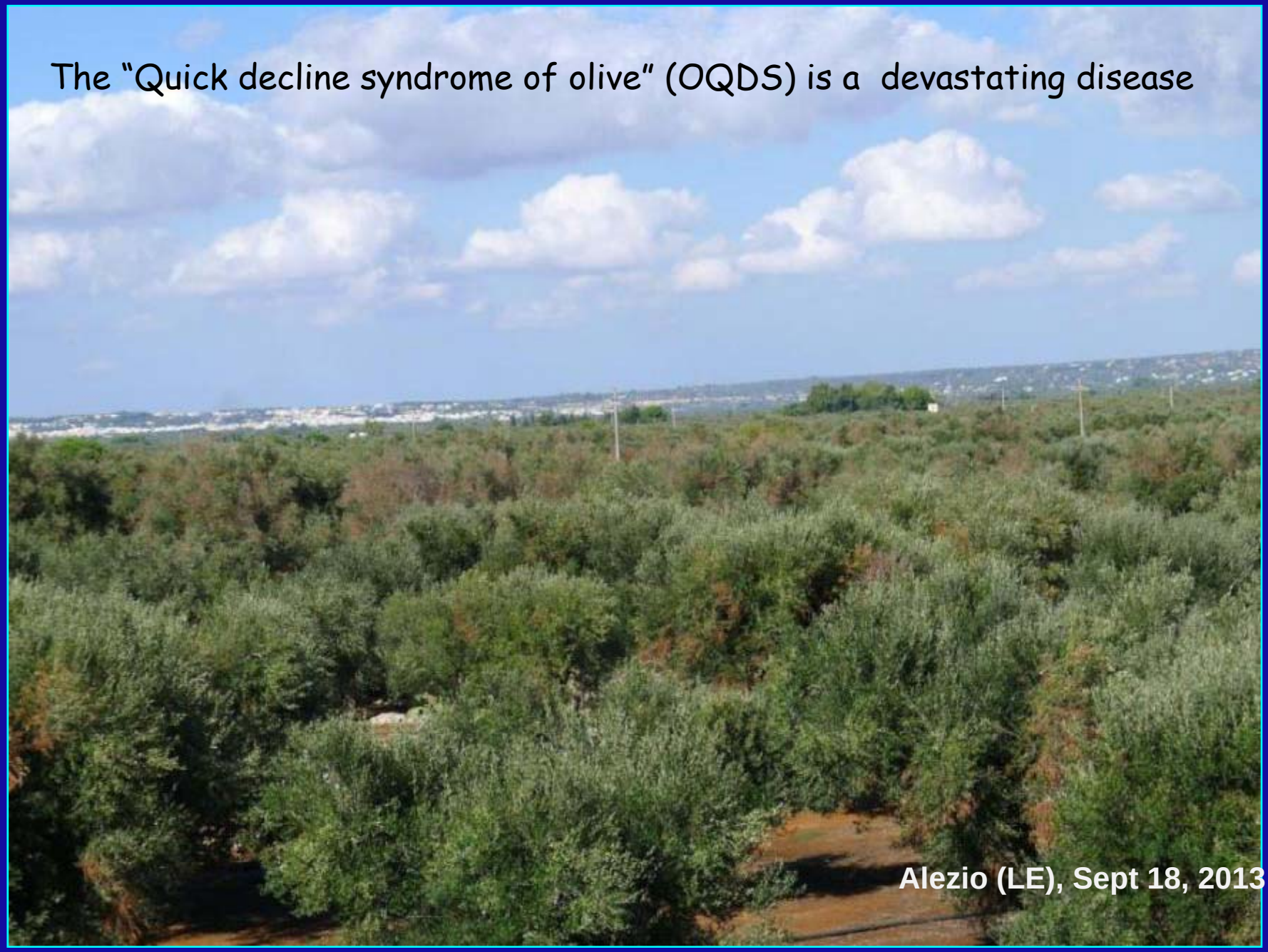
The "Quick decline syndrome of olive" (OQDS) is a devastating disease



Alezio (LE), Sept 18, 2013

……. the landscape sightseeing has changed its usual color

The decline affects mainly aged trees (100 years or older)

In the focus area, disease incidence reach the 100%

Symptoms consist in the apperance of withering and dessication of terminal shoots….

Wilt symptoms are randomly distributed on the canopy

the rapid dieback of shoots, twigs and branches is followed by collapse and death of the entire tree …..

Severe pruning do not ameliorate the situation, indeed it determines a worsening…….

Production of suckers at the crown level, indicate a strong impairment of the xylem transport system

However, the suckers are also affected…. showing symptoms in a short time

Leaf tips and margins turn dark yellow to brown, a condition that spreads inward, eventually leading to desiccation..

Smptoms progress in severity from older to younger leaves

The margins of the necrotic area may be reddish-brown with a chlorotic halo merging the green tissue

Typical leaf-scorch symptoms

Various others patterns of spotted or marginal necrosis can also occur

Desiccated leaves and mummified drupes remain attached to the shoots.

The casual agent(s)?? What we have found…

1) Leopard moth (*Zeuzera pyrina*)

Cross-sectioned olive branch show extensive necrosis of sapwood

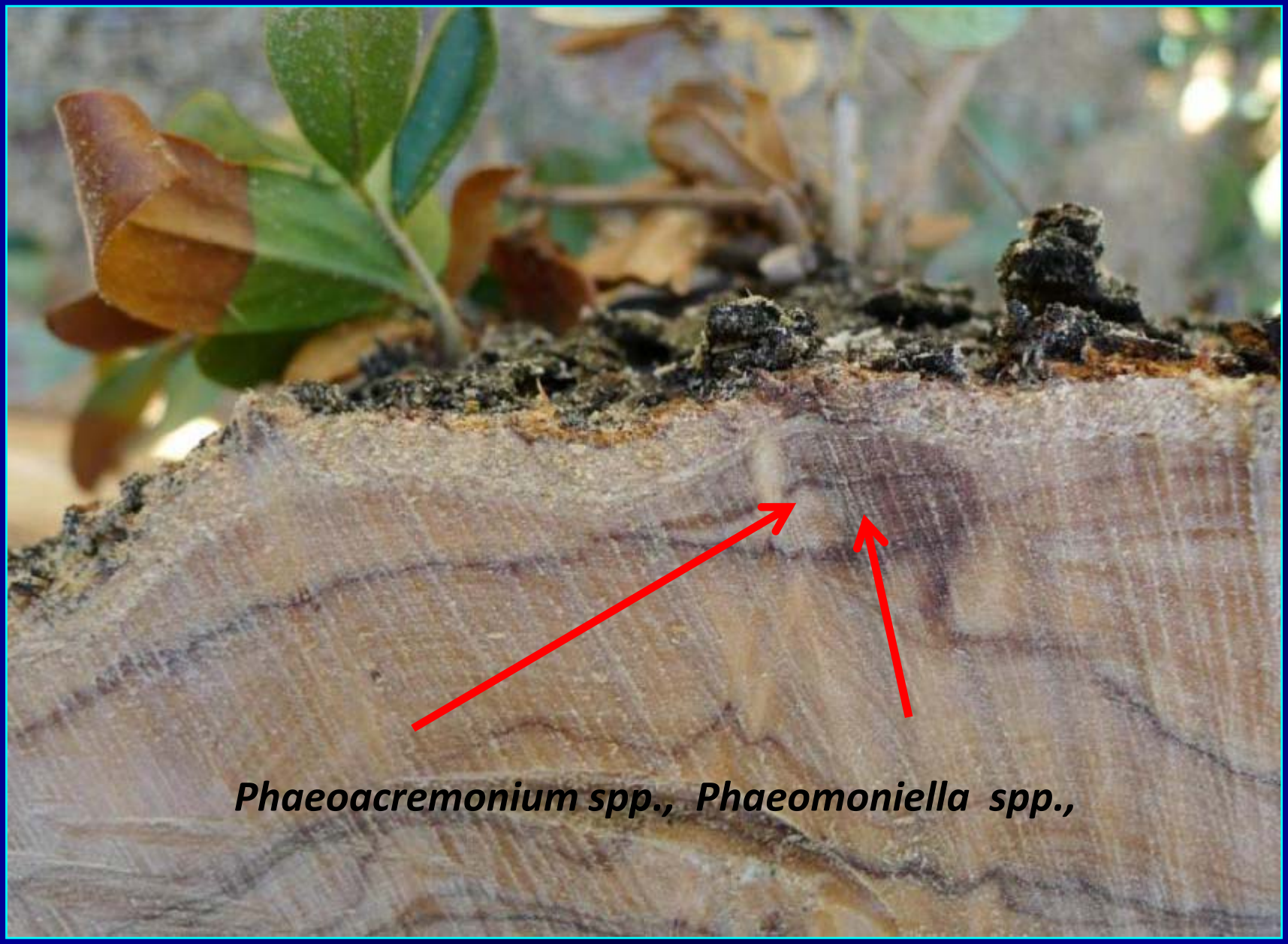
Necrosis and vascular discoloration start from moth galleries

The casual agent(s)?? What we have found…

2) *Phaeoacremonium* spp., *Phaeomoniella* spp.

Extensive necrosis and vascular discoloration of sapwood **due to fungal invasion**

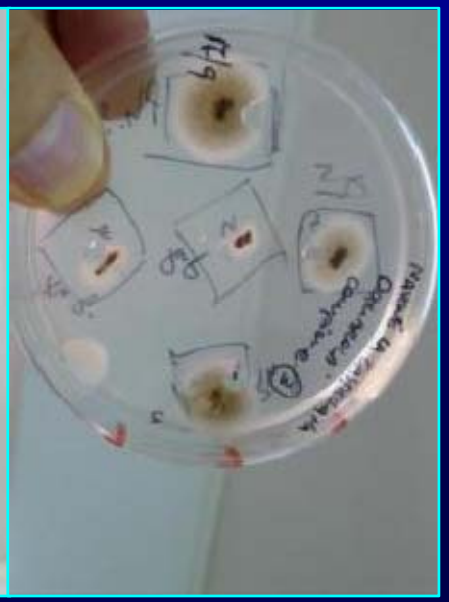
Cross-section of branch from which new shoots depart and with typical symptoms on the leaves



showed typical discoloration of the corresponding sapwood from which the fungi were easily isolated

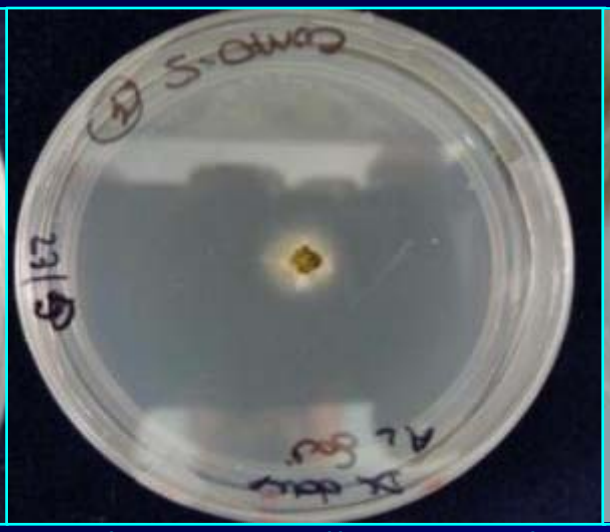
Phaeoacremonium rubrigenum

P. aleophilum



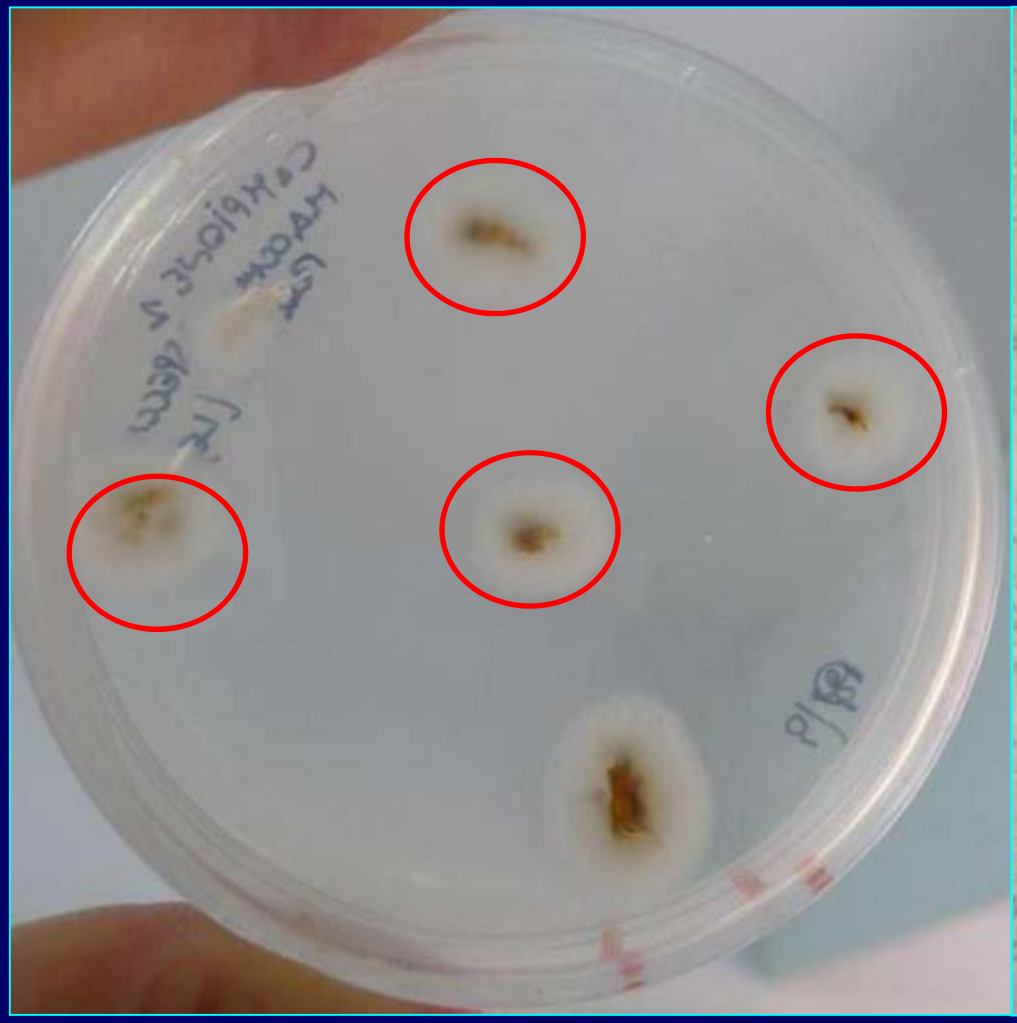
Phaeoacremonium spp.

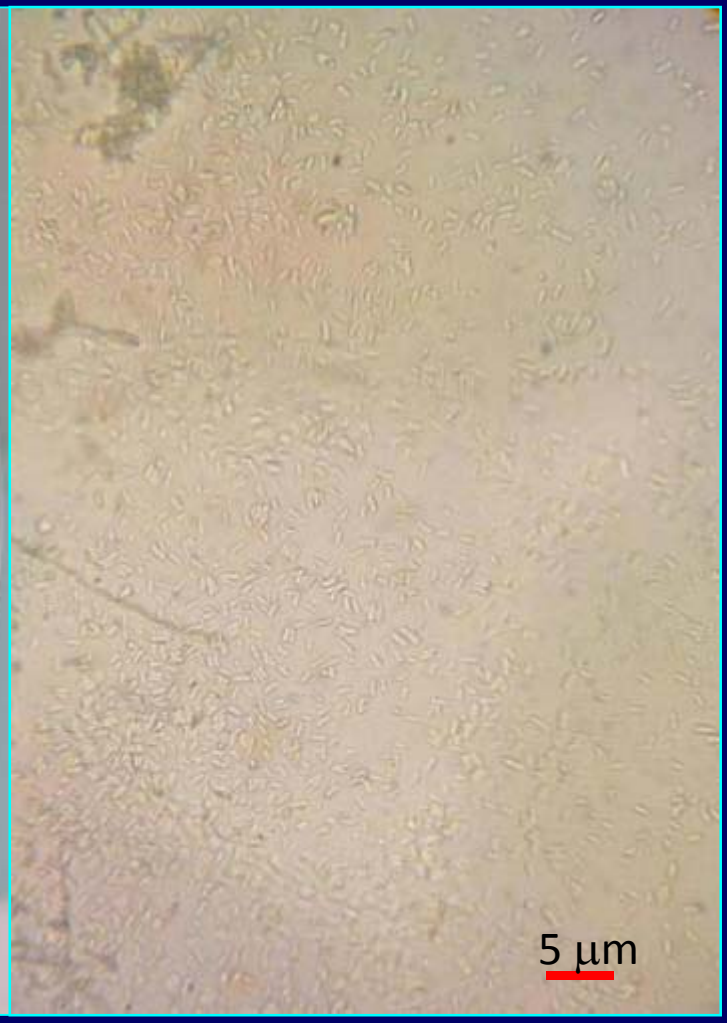
Phaeoacremonium alvesii



Phaeomoniella prunicola

Phaeomoniella spp.





Phaeoacremonium parasiticum (Ajello, Georg & Wang) Gams, Crous & Wingf.

Actinidia chinensis, Aquilaria agallocha, Cupressus sp., Nectandra sp., *Phoenix dactylifera, Prunus armeniacae, Prunus avium, Olea europea; Quercus virginiana,* Soil, *Vitis vinifera*

Xylella fastidiosa

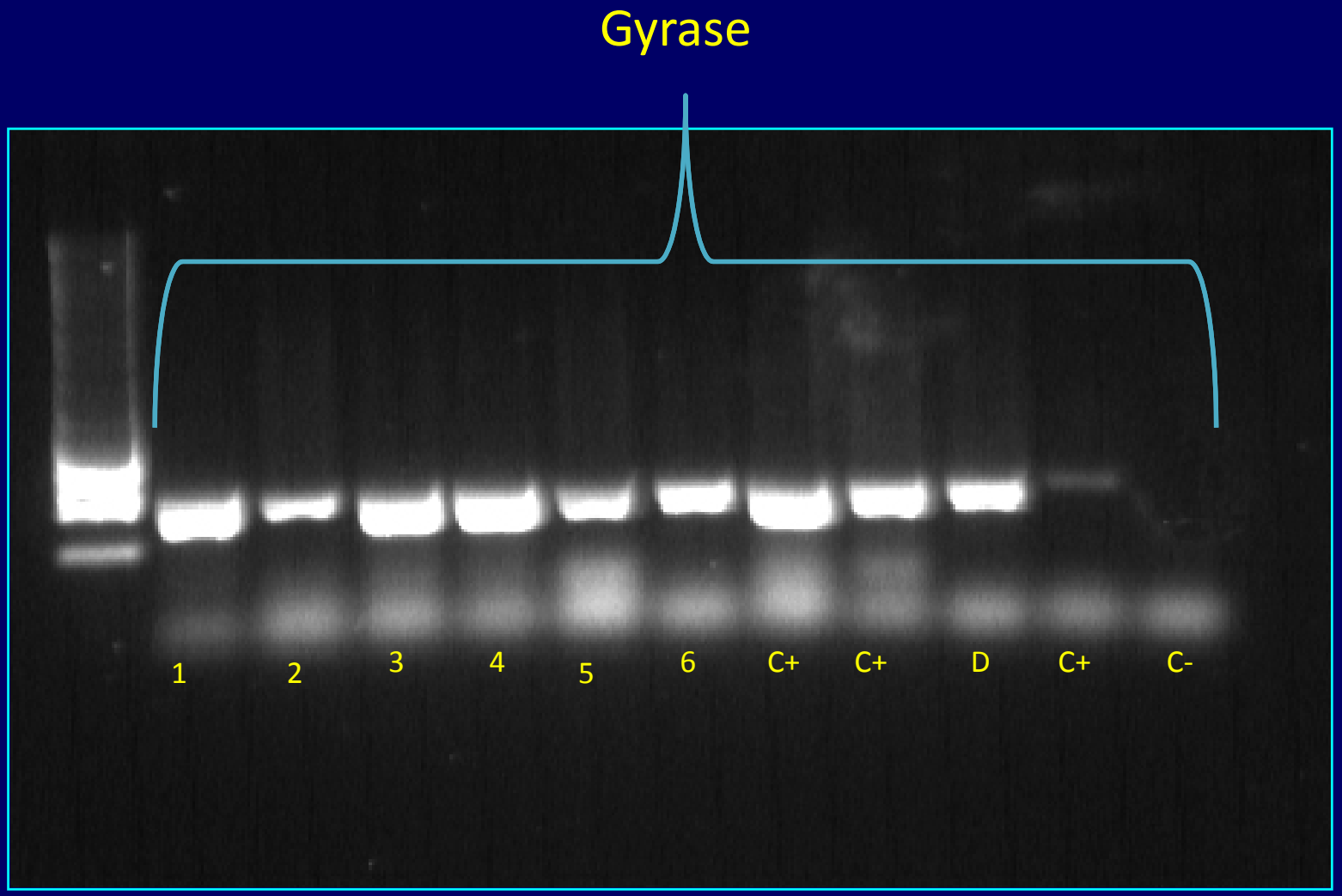
- A Gram-negative, xylem-restricted bacterium with rod-shaped cell and a rippled cell wall, on the **EPPO A1 List** since 1981; transmitted by xylem-sap-feeding sharpshooter leafhoppers (*Hemiptera*: *Cicadellidae*) and spittlebugs (*Hemiptera*: *Cercopidae*).
- Has a very wide natural host range (more than **150 species**) some of which are crops of economic relevance (e.g. grapevine, citrus, coffee, stone fruits).
- Several *Xylella fastidiosa* (Xf) subspecies are known denoted *Xf* ***fastidiosa***, *Xf* ***sandy***, *Xf* ***multiplex*** and *Xf* ***pauca***. These subspecies are endowed with a differential pathogenicity, thus they infect different hosts.
- As to olive, apparently there is **only one record from California**. Tests to prove the pathogenicity to olive of this *Xylella* isolate were inconclusive.

Methanol-HCl test

Before **After**

The casual agent(s)?? What we have found…

3) *Xylella fastidiosa sequences*



Gyrase gene by Rodrigues *et al.* (2003)


Recommendation
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