Current situation of *Xylella fastidiosa* in France

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INTRODUCTION

Xylella fastidiosa (*X. f.*) has been detected for the first time in France, in **Corsica** and **PACA** region (**Côte d'Azur**) during the summer 2015.
Since 2020, *X. f.* has been also highlighted in Occitanie region with a significant number of new outbreaks discovered during the summer 2022.
Only the **subspecies *multiplex*** has been reported so far in these regions, although *X. f* subsp. *pauca* was previously reported and eradicated in one outbreak in Menton (PACA).

METHODS

Validation process according to EPPO Standard PM7/98

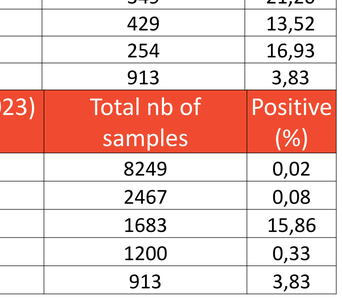
➢ **Detection on plants** :
Validated French method **MA039 version 6** (Feb. 2023)

Automated DNA extraction with KingFisher® Flex automate (Thermo Fisher) :
- *Olea europaea* and *Quercus* spp. : **Maxwell® HT Environmental TNA kit (Promega) => robustness face to the PCR inhibitors**
- Other matrices: **QuickPick™ SML Plant DNA kit (Bio-Nobile)**

Amplification: Duplex Real Time PCR Harper *et al.* , 2010 with internal control 18S Ioos *et al.*, 2009

➢ **Detection on vectors :**
Validated French method MA065 version 1 (Oct. 2020)
Automated DNA extraction with KingFisher® Flex automate (Thermo Fisher) and **QuickPick™ SML Plant DNA kit (Bio-Nobile)**
Amplification: Duplex Real Time PCR Harper *et al.* , 2010 with internal control 18S Ioos *et al.*, 2009

➢ **Identification**:
- Subspecies : Tetraplex Real Time PCR Dupas *et al.*, 2019
- Sequence-Type : MLST Yuan *et al.*, 2010



Occitanie

	Plant species the most detected positive in number (2015-2023)	Total nb of samples	Positive (%)
Top 5 positives	*Spartium junceum* L.	1290	18,60
	Prunus dulcis (Mill.) D.A Webb	1175	3,15
	Lavandula sp.	625	5,12
	Dittrichia viscosa (L.) Greuter	402	5,72
	Rosa canina L.	530	2,26
Top 5 sampling	Plant species the most sampled (2015-2023)	Total nb of samples	Positive (%)
	Vitis vinifera L.	2659	0
	Olea europaea L.	1520	0
	Nerium oleander L.	1428	0
	Spartium junceum L.	1290	18,60
	Prunus dulcis (Mill.) D.A Webb	1175	3,15

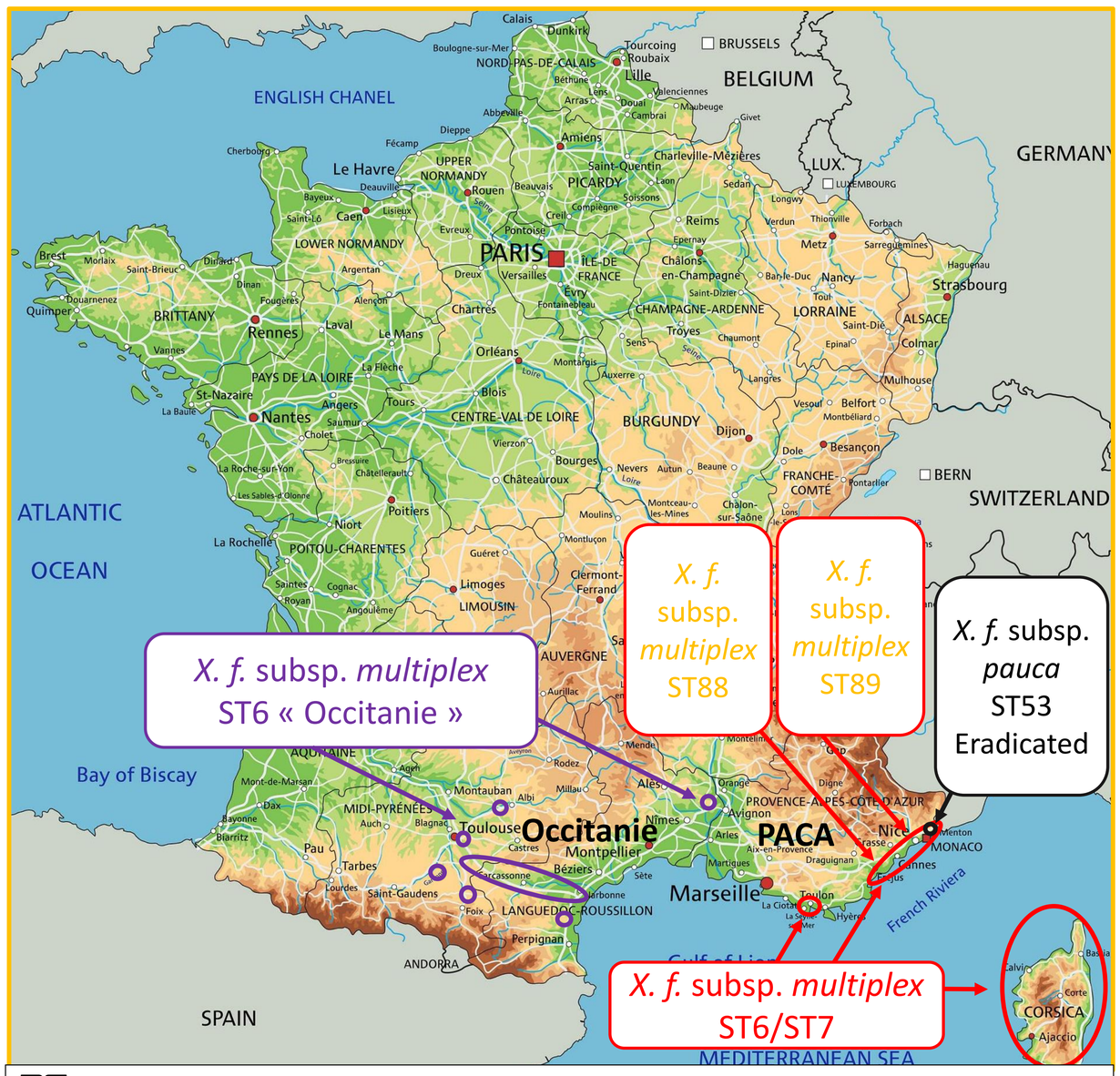
PACA

	Plant species the most detected positive in number (2015-2023)	Total nb of samples	Positive (%)
Top 5 positives	*Polygala myrtifolia* L.	1683	15,86
	Dimorphotheca ecklonis	349	21,20
	Spartium junceum L.	429	13,52
	Euryops chrysanthemoides (DC.) B.Nord	254	16,93
	Lavandula sp.	913	3,83
Top 5 sampling	Plant species the most sampled (2015-2023)	Total nb of samples	Positive (%)
	Olea europaea L.	8249	0,02
	Nerium oleander L.	2467	0,08
	Polygala myrtifolia L.	1683	15,86
	Salvia rosmarinus L.	1200	0,33
	Lavandula sp.	913	3,83

Corsica

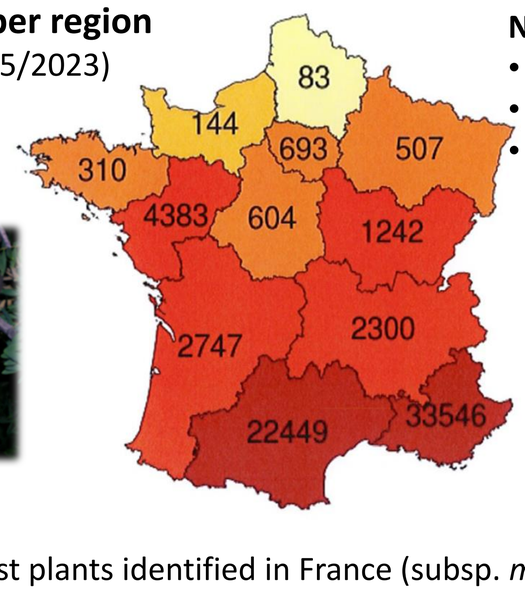
	Plant species the most detected positive in number (2015-2023)	Total nb of samples	Positive (%)
Top 5 positives	*Polygala myrtifolia* L.	2157	25,64
	Helichrysum italicum (Roth) G.Don.	1042	17,78
	Calicotome villosa (Poiret) Link	327	30,28
	Cistus monspeliensis L.	811	9,37
	Lavandula sp.	271	12,92
Top 5 sampling	Plant species the most sampled (2015-2023)	Total nb of samples	Positive (%)
	Olea europaea L.	2848	0,11
	Polygala myrtifolia L.	2157	25,64
	Quercus ilex L.	1246	0,24
	Nerium oleander L.	1052	0,1
	Helichrysum italicum (Roth) G.Don	1042	14,78

DIAGNOSTIC RESULTS AND IDENTIFICATION ON PLANTS



Cunty A., Legendre B., de Jerphanion P., Dousset C., Forveille A., Paillard S. and Olivier V., Update of the *Xylella fastidiosa* outbreak in France: two new variants detected and a new region affected, European Journal of Plant Pathology, 2022, 163 : 505-510

Sample number per region
2015-2023 (30/05/2023)



Nbr of positive sample (%)
- Corsica : 1208 (5.67%)
- PACA : 792 (2.33%)
- Occitanie : 453 (2.01%)

Polygala myrtifolia

Platanus sp.

➢ **More than 50** host plants identified in France (subsp. *multiplex*)
➢ **Only 5 olive trees** (*Olea europaea*) have been found infected with low titer since 2015
➢ **No grapevine** (*Vitis vinifera*) and **no *Citrus* sp.** found infected with *X. f.* in France

DIAGNOSTIC RESULTS AND IDENTIFICATION ON VECTORS

➢ ***Philaenus spumarius*** and ***Neophilaenus campestris*** founded *X. f.* positive in France

➢ Corsica and PACA : *multiplex* ST6 and ST7
➢ Occitanie : *multiplex* ST6

} Same subspecies and sequence-types than in plants

Cunty A., Legendre B., De Jerphanion P., Juteau V., Forveille A., Germain J.F., Ramel J.M., Reynaud P., Olivier V. and Poliakoff F., *Xylella fastidiosa* subspecies and sequence types detected in *Philaenus spumarius* and in infected plants in France share the same locations, Plant Pathology, 2020; 169 : 1798-1811

Philaenus spumarius **larva and foam**

Philaenus spumarius **(5,3 to 6,9 mm)**

Neophilaenus campestris **(5 to 5,7 mm)**

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4th European Conference on *Xylella fastidiosa* - EFSA