Action C5

Extension of the Prevention and early warning system to other Natural Parks

Deliverable:

Trapping design for the replication areas- 2021 update

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Prepared by: INRAE

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1. Introduction

The Covid-19 epidemics largely perturbated the surveys planned in 2020 in delaying all the planned trappings to mid-june at least. Moreover, the administration of Port Cros national park did not give any reply to our inquiries. Thus, the 2020 survey first consisted in generalizing a network of attractive traps in 17 sites on the seashore nearby to the Port Cros islands in order to detect possible spots of beetle presence susceptible to expand to the Park. Second, owing to one of the associated partner (Cosave- Eric Chapin) we finally succeeded, from early July on in deploying two traps on the island of Porquerolles. This island is partly included in the National Park, but the traps were settled in a zone not belonging to the Park.

No *Xylosandrus* beetles were trapped on Porquerolles island. *X. crassisculus* was not trapped at all in the 17 sites of the trapping network. *X. compactus* was trapped on 2 sites of the Var seashore (Saint Raphaël, Roquebrune/ Argens) but rather far (>50km) from the National Park. It was not trapped in its former sites of presence of Château Léoube and Le Rayol, which are located at a shorter distance from the Park. However, all these 2020 results must be considered with caution since the late settlement of the traps did not allow to capture the first generation of both beetles, emerging from mid-April to early June, which is usually the major one.

2. Protocol for early warning of *Xylosandrus* spread towards Port Cros Park

Recent contacts were obtained with the head of the National Botanical Conservatory of Porquerolles Island, which is effectively part of National Park of Port Cros, and hosts a major collection of fig, mulberry and carob trees. The Conservatory head agreed the deployement of one trap there. Besides, the two traps settled in other parts of the island will be maintained. In addition, INRAE team will go by July to Porquerolles island to survey for any symptoms of tree and shrub damage by *Xylosandrus*.

Figure 1: Map of the 2021 trapping network for early warning of expansion of *Xylosandrus* spp. and possible incursion to the National Park of Port Cros. New trap in Porquerolles island in purple.

The trapping on the seashore will be maintained at the same sites as in 2020 in order to appreciate the differences with the 2020 captures. A special attention will be put on the two sites of former presence of *X. compactus* of Château Léoube and Le Rayol where survey of damaged shoots will also be organized in order to confirm or not the absence of the beetles. In case of captures of *Xylosandrus* on the continent in traps located elsewhere than in the areas where the beetles have already been recorded, all sensitive plant species are to be checked for damage symptoms within a radius of 100m. Discussion will occur with officers of the Forest Health Departement about pruning or removal of the infested plants.

The 2021 trapping protocol will be similar as the one for 2020, with black multifunnel traps baited with quercivorol (1ml) + a-copaene (2 ml)+ Ethanol + (-) a-pinene. Collection of the trapped insects will occur every 3 weeks and the attractants changed every 6 weeks.

Taking into account the problems occurred in 2020, specific arrangements have been adopted during the February 2021 meeting in Antibes in order to guarantee the **beginning of the trappings by early April until October**, and thus allowing a reliable comparison of the numbers of trapped beetles between 2019 and 2021.