

The cochénille maritime pine *Matsucoccus feytaudi*

Native to the Atlantic region (natural range), this cochénille is present in Portugal, Spain, France, Italy, and North Africa.

In the south-east of France and in Italy, its presence is epidemic and the damage caused is important. The spread of infestations towards the eastern limit of the range of the maritime pine seems to continue with an increase of 5 to 10 km per year. An infested tree decays in 5-7 years.

Order: Homoptera - Family: Margarodidae

Regulatory status: quarantine and compulsory control agency

Technical sheet

Host plants:

This species is subservient to maritime pine.

Morphology:

The adults

The males, 1.5-2mm, are winged (4mm wingspan) and carry caudal wax filaments about three times longer than the body. The transparent wings have a double rib costale greyish. The legs and the antennae are of the same color.

Females, 3 to 5 mm long, are wingless. They have relatively short antennae and legs.

The larvae

The young L1 stages, 0.4mm, are greyish with a brown punctuation while the older L1, 1mm, are pyriform in the anteroposterior and gray. Cystiform stages L2, L3 have atrophic legs and are purplish brown. The male L2 larvae measure 1.35mm and the female L2 larvae 2.5mm. On the other hand, male L3s are mobile, similar to adult females, but are lighter in color and yellow, and are 2mm long.

Biology:

From January-February both sexes appear. Mating takes place very quickly and females lay up to 300 eggs each in a split of the bark protected by an ovisac of white wax.

Towards the end of March the eggs hatch. The young larvae, mobile and wind-borne, disperse rapidly. 2 to 3 days after hatching, they settle in the deepest crevices of the bark (on the trunk and main branches) where the liber is accessible. They then insert their mouthparts in the living tissue under the cortex of the tree to feed. They stop growing during the summer. From stage L2, the larvae lose their legs and become sessile. Some of these larvae will give adult females while the other part will go through the mobile stage and then the fixed nymph (after weaving a small cocoon) to give males.

Symptoms and damage:

Naturally present endemic in the western part of Europe, the damage generated remains low. On the other hand, in the south-east of France, in Italy, its presence is epidemic and the damage caused is important. The spread of infestations towards the eastern limit of the range of the maritime pine seems to continue with an increase of 5 to 10 km per year.

The insect, to feed on the sap, injects into the vessels conductive toxic saliva. The tree then reacts by making resin in large quantities to protect itself. When the population of cochineal on the tree is too important, the tree weakens because of a too great puncture of sap and a too great expenditure of energy for the secretion of resin. Redness of the needles is observed in the lower third of the crown.

The weakened tree becomes attractive to secondary insect pests such as bark beetles, weevils. A tree initially infested by this cochineal decays in 5-7 years. About 7 years are required for all trees in a stand to become infested but some individuals are resistant to *Matsucoccus faytaudi*.

Means of struggle

A) Chemical control

The chemical control of this pest is useless since this insect is hidden under the bark and is not recommended as harmful to the populations of auxiliary insects. There are no registered products against this pest.

B) Biological control

Two biological control methods proposed by INRA are being validated; one based on trapping masses of males using synthetic pheromone for areas of low infestation (in heavily infested areas, natural pheromone secreted by females has superior attractiveness) and the other based on a selection of resistant trees and the elimination of sensitive trees.