

Mini data sheet on *Crisicoccus pini* (Hemiptera: Coccidae)

Crisicoccus pini (Hemiptera: Coccidae) was added to the EPPO A2 List in 2023. A full datasheet will be prepared, in the meantime you can view here the data which was previously available from the EPPO Alert List (added to the EPPO Alert List in 2019 - deleted in 2023).

Why: In September 2015, *Crisicoccus pini* (Hemiptera: Coccidae - Kuwana pine mealybug) was found for the first time in Italy causing damage to *Pinus pinaster* and *P. pinea* trees in the city of Cervia (Ravenna province, Emilia-Romagna region). In this city, infested pine trees were randomly distributed both along the roads and in private gardens. Considering the severity of damage observed and the fact that this mealybug of Asiatic origin could threaten pine trees, the Panel on Phytosanitary Measures suggested that *C. pini* should be added to the EPPO Alert List.

Where: *C. pini* originates from Asia and was first described in Japan. It has been introduced into California (US), and there is an isolated record from the District of Columbia (US). In the EPPO region, before being found in Italy in 2015, *C. pini* had been recorded in 2006 in Monaco on *P. pinaster* trees growing in the Japanese garden of the city.

EPPO region: Italy (Emilia-Romagna), Monaco, Russia (Far East).

Asia: China (at least Hong Kong, Shandong, Xizhang), Japan (Honshu, Kyushu), Korea (Republic of), Korea (Dem. People's Republic), Russia (Far East), Taiwan.

North America: USA (California, District of Columbia).

On which plants: *C. pini* is apparently restricted to Pinaceae. According to the literature, *C. pini* has been recorded on *Pinus coulteri*, *P. densiflora*, *P. halepensis*, *P. koraiensis*, *P. massoniana*, *P. nigra*, *P. parviflora*, *P. pinaster*, *P. pinea*, *P. radiata*, *P. tabuliformis*, *P. thunbergii*. *Abies* sp. is also mentioned in a list of hosts, but this needs to be confirmed. Observations made in the city of Cervia (IT) have showed that *C. pini* attacked both *P. pinaster* and *P. pinea* (new host in Italy).

Damage: *C. pini* feeds and develops among the growing pine needles. As a consequence, needles become yellow and partially necrotic. Mealybugs also excrete honey dew on which sooty moulds subsequently develop. Canopies of attacked pine trees show partial to full necrosis, and in some cases tree mortality has been observed in the city of Cervia (IT). Data on the biology and life cycle of the pest is very scarce in the available literature. Pictures can be viewed on the EPPO Global Database: <https://gd.eppo.int/taxon/DACLPI/photos>

Dissemination: Immature stages of mealybugs can move over short distances. Over long distances, all stages can be transported on infested plant material.

Pathways: Plants for planting (including bonsais), cut branches of *Pinus* spp. from countries where *C. pini* occurs.

Possible risks: Pine trees are widely planted across the EPPO region for forestry and ornamental purposes. Data is generally lacking on the economic and environmental impacts of *C. pini*. In California (US) where the pest has been introduced, recent literature suggests that it is not a pest, although in the early 1990s it was reported that it could behave as a pest. Concerning the situation in Monaco, more recent information could not be found in the literature. In Italy, the introduction of *C. pini* and the observation of damage have triggered the implementation of phytosanitary measures. In March 2016, a national decree for 'emergency measures to avoid the spread of *Crisicoccus pini* Kuwana in Italy', as well as a pest control plan were adopted. In all infested sites, severely affected pine trees were destroyed, insecticide (abamectine) was applied by endotherapy and a predator *Cryptolaemus montrouzieri* (Coleoptera: Coccinellidae) was repeatedly released. In 2018 (after 3 years of control measures), chemically treated pine trees showed recovery, *C. montrouzieri* were still present and a reduction of scale populations was observed. As *C. pini* could be a threat to pine trees in urban environments and possibly in forests, it is advisable to monitor the situation of this pest in the EPPO region.

Sources

Ben-Dov Y (1994) A systematic catalogue of the mealybugs of the world (Insecta: Homoptera: Coccoidea: Pseudococcidae and Putoidae) with data on geographical distribution, host plants, biology and economic importance. Intercept Limited Andover, 686 pp.

Boselli M, Pellizzari G (2016) First record of the Kuwana pine mealybug *Crisicoccus pini* (Kuwana) in Italy: a new threat to Italian pine forests? *Zootaxa* 4083(2), 293-296.

Boselli M, Vai N, Mirotti A, Mazzini F, Mazzoni F, Mosti M, Foschi S, Scapini C (2018) [*Crisicoccus pini* (Hemiptera, Pseudococcidae) in Emilia-Romagna: delimitation of the infested area and control plan]. (in

Italian). Paper presented at the Giornate Fitopatologiche (Chianciano Terme, IT, 2018-03-06/09).

http://www.geasnc.eu/wp-content/uploads/2018/03/CRISICOCCUS-PINI-IN-EMILIA-ROMAGNA_DELIMITAZIONE-DELL%E2%80%99AREA-INFESTATA-E-PIANO-DI-CONTROLLO.pdf

INTERNET

- Regione Emilia-Romagna. Agricoltura e pesca. Avversità e difesa delle piante. Cocciniglia cotonosa del pino. <http://agricoltura.regione.emilia-romagna.it/fitosanitario/doc/avversita/ornamentali/doc/crisicoccus>

- ScaleNet. *Crisicoccus pini*. <http://scalenet.info/catalogue/crisicoccus%20pini/>

Danzig EM, Gavrilov IA (2010) Mealybugs of the genera *Planococcus* and *Crisicoccus* (Sternorrhyncha: Pseudococcidae) of Russia and adjacent countries. *Zoosystematica Rossica* **19**(1), 39-49.

Foldi I, Germain JF (2018) Liste des cochenilles de France (Hemiptera, Coccoomorpha). *Bulletin de la Société entomologique de France* **123**(1), 7-18.

Germain JF, Matile-Ferrero D (2006) *Comstockiella sabalis* (Comstock), *Crisicoccus pini* (Kuwana) et *Phenacoccus defectus* Ferris, cochenilles nouvelles pour la France (Hem., Diaspididae et Pseudococcidae). *Bulletin de la Société Entomologique de France* **111**(3), 395-401.

Kosztarab MP (1996) Scale insects of Northeastern North America. Identification, biology, and distribution. Virginia Museum of Natural History Martinsburg, Virginia 650 pp.

Martin JH, Lau CSK (2011) The Hemiptera-Sternorrhyncha (Insecta) of Hong Kong, China - An annotated inventory citing voucher specimens and published records. *Zootaxa* **2847**, 1-122.

McKenzie HL (1967) Mealybugs of California with taxonomy, biology, and control of North American species (Homoptera: Coccoidea: Pseudococcidae). University of California Press, p 127-129.

Miller DR, Miller GL, Hodges GS, Davidson JA (2005) Introduced scale insects (Hemiptera: Coccoidea) of the United States and their impact on US agriculture. *Proceedings of the Entomological Society of Washington* **107**(1), 123-158.

Son AS, Suh SJ (2017) Current status of Pseudococcidae (Hemiptera: Coccoidea) in South Korea. *Insecta Mundi* **0581**, 1-6. <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2087&context=insectamundi>

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