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Research Article

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[Life history strategies of the armored scale, \*Aulacaspis alisiana\* \(Hemiptera: Coccoidea: Diaspididae\) on the Japanese silver tree \*Neolitsea sericea\* \(Bl.\) Koidz. \(Lauraceae\) in Fukuoka, Japan](#)

The armored scale *Aulacaspis alisiana*, is a serious invasive pest of the Japanese silver tree, *Neolitsea sericea*, causing serious damage to the tree in Japan. However there are currently no control approaches available for it, complicated by shortage of information on the pest. We studied life history strategies of *A. alisiana* on *N. sericea* in Fukuoka Prefecture with a view to providing a basis for formulating sustainable control based on an understanding of the behavior of the pest and potential role of its natural enemies. We established that *A. alisiana* had three overlapped generations in Fukuoka, with generation times ranging between 65 and 71 days. The adults were relatively fecund, with each female producing between 60 and 67 eggs, with high hatchability, >78%. The pest settled on the lower side of leaves, and although it generally preferred younger leaves, it did not attack newly emerged leaves. Natural enemy groups comprising ants, spiders and beetles (coccinellids) played an important role in regulation of the pest population, with natural mortality of about 30%. They could thus form a critical component of an integrated management approach for the pest in Fukuoka.

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Research Article

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[Detection of \*Clavibacter michiganensis\* subsp. \*michiganensis\* in tomato and chili seeds and farming area of Sinaloa, Mexico](#)

Phytosanitary inspectors play an important role in diagnosing diseases in foreign plant material. However, some deficiencies have been detected in the detection causing the entrance of many microorganisms. Therefore, it was of great interest to detect the presence of *Clavibacter michiganensis* subsp. *michiganensis* (Cmm) in foreign tomato and chili seed in the agricultural area of Sinaloa, Mexico, besides the growth and cell density of Cmm was evaluated in different selective media under continuous illumination and photoperiod. The results indicate that seed of 35 varieties of tomatoes was collected; while for Chili seed were 18. This study was supported by farmers (225) which represent 79% of all growers and 32 business engaged in the sale of agro-supplies, provided seeds of varieties and hybrids. Those growers are from six areas (Culiacan, El Tamarindo, Navolato, Culiacan, El dorado and Badiraguato). For detection of Cmm in tomato seed, from 35, only four was variability considering Immunochromatography and ELISA techniques; however, considering chemical and physiological test, the result was negative. Similar results were in 18 varieties of chili seed, where eight showed variability to detect Cmm, and negative by chemical and physiological test. According to the growth and cell density of Cmm, the optimal medium was YDC under pH stable and continuous light conditions. It is recommended to consider the fusion of diagnostic techniques in the emission of a result.

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