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Defoliation by *Thaumetopoea pityocampa* Schiff (Lepidoptera: Thaumetopoeidae) and their consequence on Aleppo pine trees in semi-arid areas (Algeria)

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Abstract : Pine processionary moth defoliation had a significant impact on Aleppo pine, *pinus halepensis* trees growth in semi arid areas of plantation forests. based on the visual evaluation of pest damage by pine proocessionary moths in our investigation during two years infer that the rate defoliation in artificial stand were more important than in the native stand where the rate of defoliation not exceeding 10%, while in the artificial stand the rate of defoliation was varied between 25 to 50%. This may lead to decrease level of carbon in the atmosphere. The defoliations by processionary moths are variable in the aegis of the environmental conditions and in the dynamics of populations. Frequency analysis of the number of winter nests counted per tree shows a very high significant difference between the sites prospected (p=0.0001). The presence of native sites near than the artificial ones facilitated the adults migration from their origin sites where there were repeated treatments periodically into the monoculture plantations which offered a favorable conditions for this insect, it marks their presence significantly for young than for old trees of the plantations. The construction of winter nests of pine processionary moths depends to many factors; altitude, climatic conditions and number of processionary larvae. The pine processionary larvae have not only a strategy of construction of the winter nests but also a strategy of their occupation which defer from site to another and from variety of tree to another. The dimension of pine processionary winter nests was affected by the variation of the altitude, in our study we found that the nests which collected from the altitude of 1300m have a longer and larger dimension than the nests which collected from the altitude of 1200m.

Keywords: Processionary pine, Nest, Strategy of occupation