Impact of climate change on the dynamics of forests pests in Algeria

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Abstract

Pine forests are a favorable host for the activity of various insect pests. Severe attacks are caused periodically in semi-arid areas of Algeria by the processionary moth, *Thaumetopoea pityocampa* which often result in spectacular defoliation. Currently, the defoliator of pine forests in the Mediterranean region has become a model study for the climate change. Each year a further extension of its range is noted. Furthermore, climatic variations recorded in these semi-arid areas have favored the settlement of other plagues, particularly bark beetles. The shoot beetle, *Tomicus destruens*, exemplifies the expansion of these new plagues that are significantly contributing to the recent decline of natural pine forests in these areas.
Periodic outbreaks of the moths *Lymantria dispar*, *Catocala nymphaea* and *Ephesia nymphagoga* pose a constant threat as they have led in past years to substantial defoliation in cork and holm oak forests. It has been also noted the expansion of xylophagous *Platypus cylindrus* and *Cerambyx cerdo* to the east and west of northern Algeria.

In elevation, Atlas cedar forest has not escaped the defoliation of winter and summer processionary moths *T. pityocampa* and *T. bonjeani*. Similarly, a decline recorded over the past three decades in the cedar forest Belezma is the result of xylophagous taxa that have been particularly favored by climatic conditions.
These data clearly show that forest ecosystems are fragile and particularly liable to experiment the damage caused by pests that in past decades were not a major problem, but that have notably increased their range in recent times.

Keywords: Climate change, forest, insects, Algeria

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