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Flight performances of *Monochamus galloprovincialis*, insect vector of the Pine Wood nematode

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The Pine Wood Nematode (PWN, *Bursaphelenchus xylophilus*) is the most important threat to pine plantation forests in Europe since its introduction from Asia and its establishment in pine forests of Portugal. It is currently spreading towards Spain and France. The natural transmission from tree to tree is done by insect vectors of the genus *Monochamus*. However until now little was known about the flight capacity of these vectors. To better evaluate their dispersal capacity under standardized conditions, we developed automatically recording flight mills. We found that *M. galloprovincialis* exhibits a wide array of flight capacities, with few beetles not flying at all, while others are able to fly over several tens of km when considering the cumulated flights through their life span. We also investigated the effect of several life traits on flight performances such as beetles' gender, age, maturation status, body size and also the impact of nematode load. We will discuss the implication of these findings for the development of PWN risk management methods such as precautionary clearcuts.