

Feeding and oviposition preferences of *Monochamus galloprovincialis* for certain conifers under laboratory conditions

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Abstract

Feeding and oviposition preferences of *Monochamus galloprovincialis* (Olivier) (Coleoptera: Cerambycidae: Monochamini), the vector of the pine wilt nematode (PWN), *Bursaphelenchus xylophilus* (Steiner and Bühner) Nickle (Nematoda: Aphelenchoididae), in Portugal, was studied in three laboratory experiments: an adult feeding preference trial between branches of five pines, a no-choice oviposition experiment on seven conifer bolts, and an oviposition choice trial between maritime pine, *Pinus pinaster* Aiton, and four other pines, *P. pinea* L., *P. sylvestris* L., *P. halepensis* Miller, or *P. radiata* D. Don. Scots pine (*P. sylvestris*) was the pine with the largest bark feeding area, while *P. radiata* was the least chosen to feed upon. Female *M. galloprovincialis* laid eggs on *P. sylvestris*, *P. halepensis*, *P. pinaster*, *P. radiata*, *P. pinea*, and *Pseudotsuga menziesii* (Mirbel) Franco, but larvae successfully completed development only on the first four pines. Beetles emerging from maritime pine bolts were slightly bigger than the others. No preference for oviposition was detected when beetles were given the choice between *P. pinaster* and *P. sylvestris* or *P. halepensis*. Inversely, greater oviposition occurred on *P. pinaster* when compared with *P. pinea* and *P. radiata*. Although PWN currently affects only *P. pinaster* in Portugal, the results on host suitability for *M. galloprovincialis* suggest that *P. sylvestris* and *P. halepensis* are adequate hosts for the insect's feeding and oviposition, and thus may also be PWN hosts in Europe. The systematically high feeding and oviposition attraction for *P. sylvestris* exhibited by the beetles means that the eventual spread of the PWN to areas where both *M. galloprovincialis* and *P. sylvestris* occur may have a significant impact on this widespread and economically important pine, considered to be highly susceptible to *B. xylophilus*.