Coleoptera degrading hardwood logs stored at Pershore, Worcestershire

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On 7 January 2021 GHG passed three split segments of cordwood, each about 200 mm long and 80 mm wide, to PFW for examination. One was a piece of ash wood *Fraxinus excelsior* L. with the bark intact. Each piece was less than 40% of its expected weight and one held an old pupal mass of Wax Moths *Aphomia sociella* (L., 1758). The cut ends of the ash wood were intensively perforated by ptinid beetle galleries; the wood had been in a wood store at Pershore, Worcestershire VC37 SO9346 46 m a.s.l. until early 2020 and then stored elsewhere in dryness.

Internal examination found that a significant percentage of the wood had been converted to powder as fine as talc; the rest of the wood had no measurable moisture content and very little of it was unaffected by beetle activity, as were the other two pieces.

01. Segmented ash log, ex. wood store Pershore, Worcestershire, 7 January 2021, showing the density of *Anobium punctatum* galleries in transverse section.

The ash wood was found to contain one dead larva and a number of dead adult ptinid beetles. These were dominantly the familiar 'woodworm' *Anobium punctatum* (De Geer, 1774) (Fig. 01) but also a single dead larva, some developed pupae and several dead adult *Ptilinus pectinicornis* (L., 1758) a widespread species that occurs on a wide range of standing decorticated hardwood trees. Hickin (1963) recognises cohabitation of these two species and also refers to structural ash wood infested with *P. pectinicornis* in Surrey. Of interest was a female example of *P. pectinicornis in situ* in its brood gallery (Fig. 02) disposed at 90° to the grain amongst a mass of heartwood perforated by larvae. The apex of this beetle had been partially consumed by a larva moving through the maternal gallery. According to Hickin (1963) female *P. pectinicornis* may plug the brood gallery with their expanded pronota to protect the developing larvae. The partial consumption of dead xylophilous beetles by their own or other species is probably not unusual but is seldom recorded. PFW has observed this behaviour in xylophilous scarabaeids and curculionids (Whitehead & Zach, 1995).

02. Female *Ptilinus pectinicornis* dead *in situ* in maternal gallery in delignified ash log, from Pershore Worcestershire, 7 January 2021. The apex of the elytra and part of the abdomen has been removed by larval *P. pectinicornis* using the brood gallery. The visible length of the beetle is 5.3 mm.

The infestation of the logs with ptinids became apparent during the course of one season but was so extensive that it can only have occurred during very protracted storage over many seasons. *Anobium punctatum* generally prefers wood with some cell content remaining and with some moisture content and the Wax Moth usually pupates between tightly appressed wood or timber in contact with similar pieces or with the ground but not in total dryness. The extensive nature of this infestation demonstrates that it had been ongoing in the split logs for some years to the point where the resource was becoming exhausted. Then the logs were either moved or the storage conditions changed so that increasing dryness effectively eliminated their insect colonists. *Ptilinus pectinicornis* could have been present in the ash wood prior to storage and could have rendered the wood more favourable to *Anobium punctatum.*

References

Hickin, N.E., 1963. *The insect factor in wood decay* pp. 1-344. Hutchinson, London.

Whitehead, P. F. & Zach, P., 2003. Observations on *Treptoplatypus oxyurus* (Dufour, 1843) (Col., Platypodidae) including the first evidence for carnivory in Platypodidae and Scolytidae. *Entomologist's Gazette* **54**: 47-53.