

Sex pheromone of the currant pug moth *Eupithecia assimilata*, a re-emergent hop pest in England.

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Abstract

After an absence of fifty years, the currant pug moth, *Eupithecia assimilata* Doubleday, has re-appeared as a significant pest of hops in England, following withdrawal of organophosphate insecticides for use on this crop. Pheromone gland extracts from virgin female *E. assimilata* moths were shown to contain 3Z,6Z-*cis*-9,10-epoxyheneicosadiene (3Z,6Z-9,10-*cis*-epoxy-21:H) by gas chromatography linked to mass spectrometry. 3Z,6Z,9Z-Heneicosatriene (3Z,6Z,9Z-21:H) was also found as a minor component in one of two extracts. In field experiments, significant numbers of male *E. assimilata* moths were caught in traps baited with the 9*S*,10*R* enantiomer of 3Z,6Z-9,10-*cis*-epoxy-21:H but not in those baited with the 9*R*,10*S* enantiomer or racemic mixture. Addition of 3Z,6Z,9Z-21:H at the naturally occurring level greatly reduced the attractiveness of the epoxydiene.