DAFM Plant Pest Factsheet

Neoclytus acuminatus
Red-headed ash borer

Fig 1: *Neoclytus acuminatus* adult (lengths vary, ranging from 4 to 18 mm)

Pest Characteristics

- **Pest:** *Neoclytus acuminatus*
- **Common name:** Red-headed ash borer
- **Hosts:** *Neoclytus acuminatus* is considered one of the most polyphagous members of the Cerambycidae family in North America and has been recorded breeding on at least 35 woody plant genera. The major hosts of *N. acuminatus* are tree species from the Fraxinus genus in both its native North America and in its invaded regions in Europe. Notably for Ireland, there are records on *Fraxinus excelsior* (European ash) in Europe.
- **Symptoms & signs:** Circular exit holes, extensive frass, relatively large (4-18 mm) distinctive adults that often emerges indoors in firewood(Fig 2).
- **Entry Pathways:** Wood, Wood products, Wood packaging material, planting material, hitchhiking.
- **Dispersal:** *Neoclytus acuminatus* has a history of spreading and expanding its range into new areas**.** This may be linked to travel and trade, as not much is known about the natural spread capacity of this species.
- **Climatic tolerances:** The species has been described as thermophilic (heat loving). Greater adult activity and abundance is seen in warmer southern regions of America, where up to three generations of the species in a year is possible. The Irish climate is not likely to be optimal.
- **Impact:** Likely low impact for Ireland. In its native region it is considered a pest/secondary pest with attacks on cut logs or on dying/dead trees. In invaded regions in Europe no noteworthy impacts have been reported.

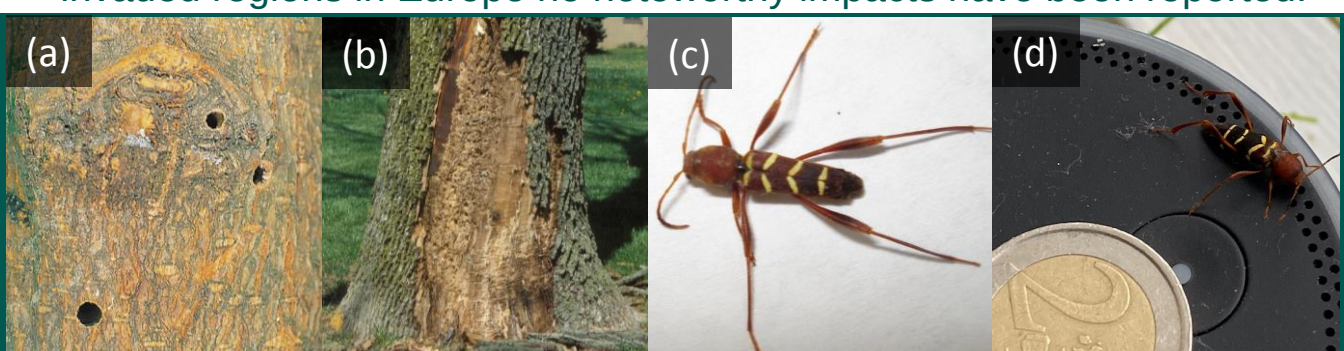

Fig 2: Visual symptoms and signs of *N. acuminatus* (a) circular exit hole (b) extensive frass and tunnelling (c) emerged adult indoors from firewood in USA (d) IE photo of likely *N. acuminatus*

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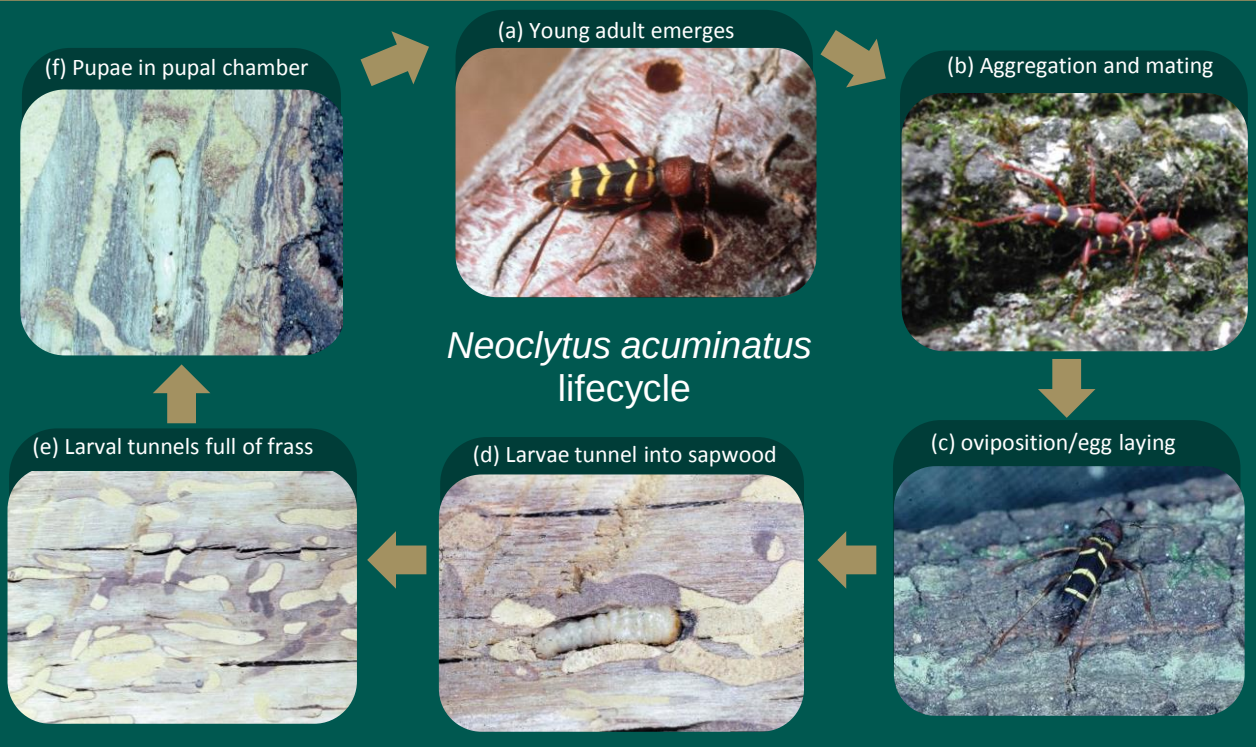

- **Distribution:** The beetle is native to North America. It is now established and continues to spread in several continental European countries (Fig 3).
- **Lifecycle:** New *N. acuminatus* adults emerge through circular exit holes (2mm-5mm). Male adults produce an aggregation pheromone, leading to both sexes accumulating on host trees. After mating, eggs are deposited in bark crevices. Young larvae tunnel into the cambial region and sapwood, passing through six instars stages. The larvae characteristically pack their galleries tightly with fine, granular frass. This species overwinters in the larval stage, inside the timber. If the infested material is sawed, stored, and dried out, emergence can be delayed several years. Generally, in Europe and northern USA, *N. acuminatus* takes one to two years to complete its life cycle. Whereas in southern USA there may be multiple generations (two to three) per year.
- **If suspected:** If you find a suspected specimen please submit images to DAFM at: plantpestreport@agriculture.gov.ie

Photo credits: Fig 1: Whitney Cranshaw, Colorado State University, Bugwood.org. Fig 2: (a) Gyorgy Csoka, Hungary Forest Research Institute, Bugwood.org. Fig 2: (b) Daniel Herms, The Ohio State University, Bugwood.org. Fig 2: (c) Mohammed El Damir, Bugwood.org. Lifecycle: (a) Howard Ensign Evans, Colorado State University, Bugwood.org. Lifecycle: (b) Pennsylvania Department of Conservation and Natural Resources - Forestry , Bugwood.org. Lifecycle: (c), (d), (e) & (f) Lacy L. Hyche, Auburn University, Bugwood.org

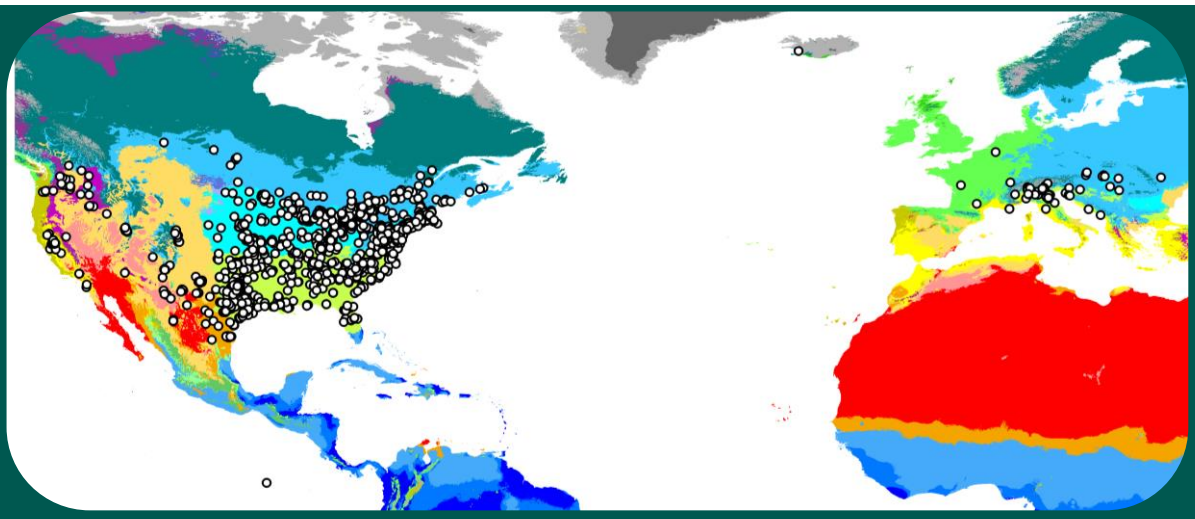

Fig 3: GBIF occurrence records overlaid on Köppen-Geiger climate classifications

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