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The *Acer* seed midge, *Acumyia acericola*, an unusual new species and genus of Lasiopteridi (Diptera: Cecidomyiidae) with aciculate ovipositor and larval puparium

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Abstract

The *Acer* seed midge, a new species and genus of gall midge, *Acumyia acericola* (Diptera: Cecidomyiidae), is described on the basis of larval, pupal and adult specimens from collections made at Hainault Forest and Lambourne Common, Essex, and other parts of the UK, during 2006–08. The new genus is distinguished from all known genera of Cecidomyiidae by the combination of a larval puparium and an aciculate ovipositor. It is assigned to the supertribe Lasiopteridi and probably belongs in the tribe Dasineurini. Larvae develop in the ovular cavities of field maple, *Acer campestre* L., and Norway maple, *A. platanoides* L., and prevent seed development. Observations suggest that this species is biennial, with final instar larvae surviving for at least two years in *Acer* seeds lying in leaf litter and soil. The species has been recorded from *Acer* seeds in continental Europe and plant quarantine interceptions in the USA indicate that the same or similar species are present in Japan and China. Two puparia, possibly of this species, were discovered recently in *A. palmatum* fruits collected in Honshu, northern Japan.

Key words: Cecidomyiidae, Lasiopteridi, gall midge, *Acer*, UK, Japan, China

Introduction

In July 2006, larval puparia of an unusual cecidomyiid were found in fruits of field maple (*Acer campestre* L.) collected by Brian Ecott in Hainault Forest and Lambourne Common, Essex, UK. Within a few weeks I found similar puparia at other locations in the UK on *A. campestre* (fig. 1) and on Norway maple (*A. platanoides* L.). Earlier records of the same or similar species were then found from continental Europe (where the puparia had been misidentified as pupae of a phorid fly, *Megaselia giraudii* (Egger)) and from North America (where they had been intercepted at USA ports of entry in seeds of ornamental maples imported from Japan). A preliminary account of these observations was published (Harris 2006). At that time adults had not been reared so the generic placing could not be established. Puparia from the original and subsequent collections in 2006 were overwintered in an unheated outbuilding in Surrey, UK, but produced no adults in 2007. Final instar larvae within the puparia remained alive and active through the second winter of 2007-2008 and adults successfully emerged in May 2008. Morphological characters indicate that the species belongs in the supertribe Lasiopteridi, and probably in the tribe Dasineurini, but the combination of an aciculate ovipositor and larval puparium is not known in any genus of Lasiopteridi, or in any other genus of Cecidomyiidae. A new genus is therefore established for this species and information on its biology and geographical distribution is provided.

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