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IPM News: The parasitic wasp *Laelius pedatus*, a parasitoid of museum beetles, is now established at the Natural History Museum, London



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Abstract

The tiny (3 mm long) wasp *Laelius pedatus* (Say, 1836) (Hymenoptera, Bethyridae), a parasitoid of museum beetles, is now established at the Natural History Museum, London (NHM). Its occurrence in Britain, identification, biology and the significance of this species in integrated pest management (IPM) monitoring are discussed.

Introduction

Previously, a handful of free-living specimens of *Laelius pedatus* had been found in the London area, since 1996, and all collected inside buildings. Of these, two had been found in the Natural History Museum, London: one in the Palaeontology Department, another in the old Entomology Department; the latter building has since been demolished. This species originates from the New World, and may have entered the UK from laboratory cultures. *L. pedatus* is a parasitoid of the larvae of various species of carpet beetles (Coleoptera, Dermestidae), including those which are pests of stored products and museum collections, mainly *Anthrenus* spp. but also *Trogoderma* spp., and in Europe has only been found living indoors (Notton *et al.*, 2014). Mayhew and Heitmans (2000) provided a detailed review of its biology.

A new record of *Laelius pedatus* at NHM

This note was initiated because of the discovery of a third specimen in the NHM, on a pest trap in the new Darwin Centre building. This was the first time that *L. pedatus* had been recorded during routine IPM monitoring, and, taken together with the two previous records, is indicative of a resident population at the NHM. Its occurrence in the NHM is unlikely to be the result of occasional introductions from outside the building, since it appears only to live indoors in Britain.



Figs. 1 – 2: *Laelius pedatus* female, specimen number BMNH(E)#968242: 1. Dorsal habitus; 2. fore wing. Scale bars both 1 mm. © The Natural History Museum, London

The presence of *L. pedatus* in museums is a matter for concern not because of any problem caused by the wasp itself, but because it may indicate the presence of long-standing dermestid infestations upon which they prey. The adults of this wasp are quite mobile, more so than their hosts, and can be found on the sticky traps used for museum pest monitoring and may therefore be useful indicators of dermestid infestation. Since even one wasp is indicative of a population of beetles, it may be considered a *super-indicator*. Mayhew and Heitmans (2000) raised the possibility of using this species to suppress *Trogoderma* spp. pest dermestids in a museum context. Anyone encountering bethylid wasps in museums is invited to submit specimens to the author for confirmation of identification, in order that the spread of this species can be monitored (for those with a suitable microscope, an illustrated identification key for all British species of *Laelius* was provided by Notton *et al.*, 2014).

Acknowledgements

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References

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