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Why is there no impact of the host species on the cold tolerance of a generalist parasitoid?

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Abstract

For generalist parasitoids such as those belonging to the Genus *Aphidius*, the choice of host species can have profound implications for the emerging parasitoid. Host species is known to affect a variety of life history traits. However, the impact of the host on thermal tolerance has never been studied. Physiological thermal tolerance, enabling survival at unfavourable temperatures, is not a fixed trait and may be influenced by a number of external factors including characteristics of the stress, of the individual exposed to the stress, and of the biological and physical environment. As such, the choice of host species is likely to also have implications for the thermal tolerance of the emerging parasitoid. The current study aimed to investigate the effect of cereal aphid host species (*Sitobion avenae*, *Rhopalosiphum padi* and *Metopolophium dirhodum*) on adult thermal tolerance, in addition to sex and size, of the aphid parasitoids *Aphidius avenae*, *Aphidius matricariae* and *Aphidius rhopalosiphi*. Results