



## Conspicuous by their absence: extremely rare field parasitism by *Trichogramma* wasps imported to control pest butterflies in a pomegranate agro-ecosystem

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### Abstract

Biological pest control programmes often involve the importation of exotic natural enemies, ideally followed by monitoring to discern the establishment and success of the programme. Several species of egg parasitoids in the genus *Trichogramma* have been released against the pomegranate butterfly, *Deudorix livia*, in Oman annually for nearly two decades. We estimated agri-field parasitism by *Trichogramma* wasps and conclude that these parasitoids are almost completely ineffective. Parasitoid emergence from *D. livia* eggs was almost exclusively by the naturally present wasp *Telenomus nizwaensis*, but this species typically achieves parasitism too late in the fruiting season to prevent economic damage. We suggest that a more targeted selection of *Trichogramma* species and strains is used in conjunction with improved mass-rearing or, alternatively, that active attempts to utilize *Trichogramma* as exotic natural enemies cease. We recommend that resources are allocated to improving parasitism, in terms of the timing and prevalence, achieved by the indigenous egg parasitoid.

### Biography

Abdulhamid Al Riyami has completed his PhD at the age of 43 years from University of Nottingham, UK. He is the head section of phytosanitary section in plant quarantine department in Oman. He has published 3 papers in reputed journals and working on about 2 more papers planned to be published during 2025. He worked in plant protection sector for more than 15 years.

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