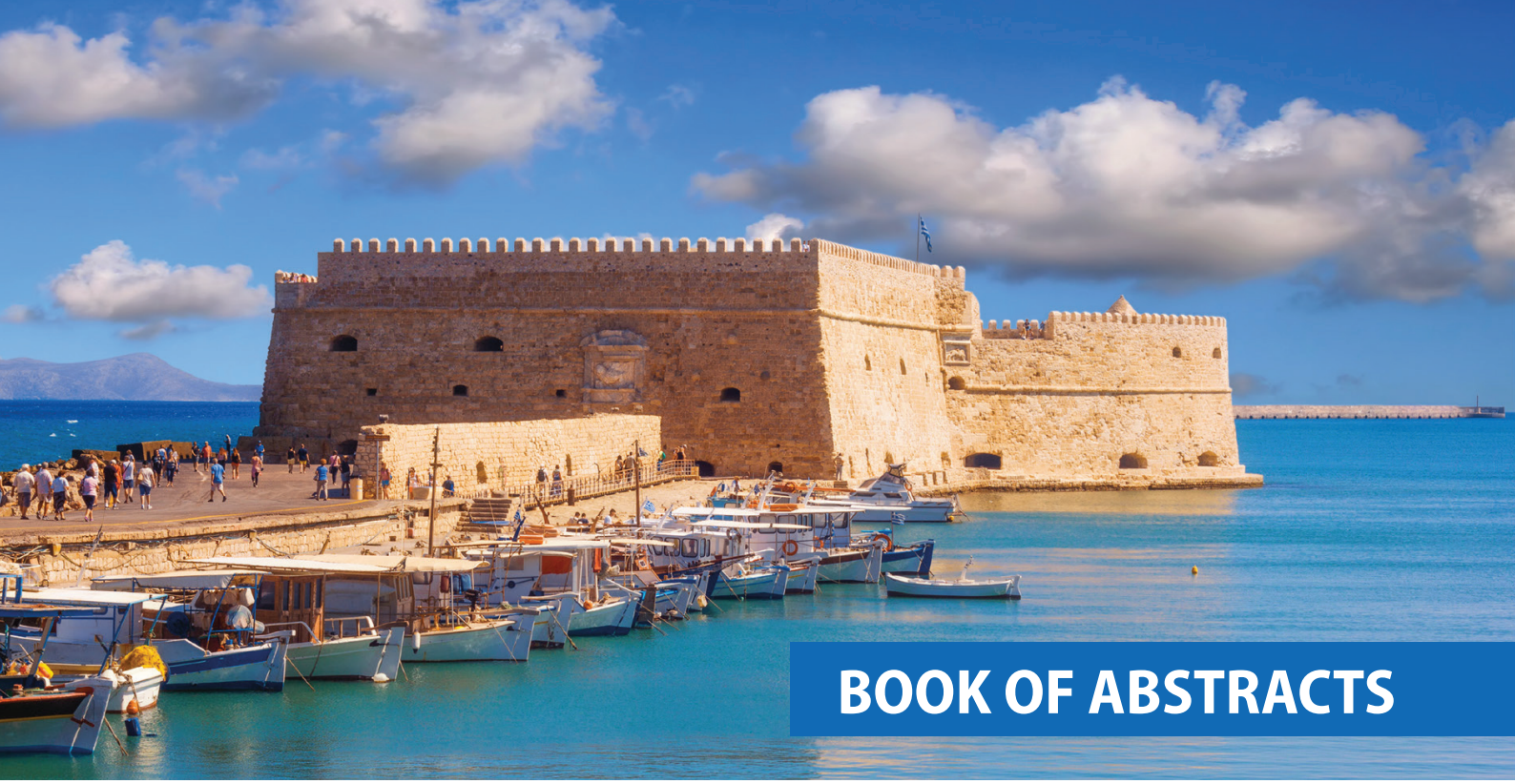

BOOK OF ABSTRACTS

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OC101. Comparative assessment of heat tolerance in weevils associated with a fire-prone ecosystem

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Fire is an important cause of disturbance that directly shapes many ecosystems worldwide, the frequency and intensity of which are expected to increase with climate change. While the effect of fire on floristic dynamics has been widely documented, little is known about how phytophagous insects respond when facing these disturbances. We explored the survival strategies of a set of sixteen weevil species with divergent lifestyles and geographic distribution in fire-prone ecosystems of the Cape Floristic Region (South Africa). More specifically, we investigated how the lifestyle of species correlated with heat tolerance. For instance, wingless species were hypothesized to show higher heat tolerance as they have a limited ability to escape fire and usually remain hidden in the soil.
The thermal tolerance of the insects was first measured using a standard heat knockdown set-up. Thermo-limit respirometry was then performed on the most resistant species using a thermal ramping protocol.
Our results show that weevils exhibit high variation in thermal tolerance across taxonomic groups. Species ecology better explains thermal tolerance than flight ability or the fire-proneness of ecosystems. Furthermore, some non-flying weevil species were found to be highly heat tolerant with CTmax values reaching up to 51.9°C.
This study highlights the diversity of strategies developed by arthropods to escape extreme heat in fire-prone ecosystems. Further work is necessary to examine the generality of these patterns across other fire-prone ecosystems to better understand behavioural compensation and evolutionary responses.

Keywords: Bogert effect, fynbos, heat knockdown, thermolimit respirometry, Coleoptera

OC102. Two common invasive whitefly cryptic species (B and Q) interact differentially with old-world and new-world begomoviruses

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Sweetpotato whitefly (*Bemisia tabaci* Gennadius)- transmitted old-world (monopartite) and new-world (bipartite) in the genus *Begomovirus* are major constraints to vegetable production in the United States. Monopartite tomato yellow leaf curl virus (TYLCV) and bipartite cucurbit leaf crumple virus (CuLCrV) and sida golden mosaic virus (SiGMV) affect crops such as tomato, cucurbits, and snap bean. *Bemisia tabaci* cryptic species B (MEAM 1) is predominant outdoors, and *B. tabaci* Q (MED) cryptic species is limited to greenhouses. However, in recent years, *B. tabaci* Q has been found colonizing outdoor