

Evolution of Behavioural and Ecological Diversity: Australian *Acacia* Thrips as Model Organisms

Bernard J. Crespi, David C. Morris, Laurence A. Mound

with Botanical Annexe

Classification and Phylogeny of *Acacia*

Bruce R. Maslin



- This book presents a novel, 'model clades' approach to the study of biodiversification, explicitly integrating behaviour, ecology, taxonomy, phylogenetics, and evolution.
- The subjects comprise a single lineage of phytophagous thrips that has radiated on Australian *Acacia*, yielding over 250 species in 30 genera, of which 140 species and nine genera are newly described.
- This radiation has generated four ecological suites of species: gall-inducers (some with defensive 'soldier' castes); species that glue phyllodes together; parasites of these two types of domicile-formers; opportunistic species using old domiciles or other microhabitats.
- The causes and consequences are explored of this behavioural-ecological diversification, with special emphasis on how this study has provided insights into the evolution of social behaviour, of host-plant use, and of exploitative behaviours.
- The driving force behind the system is the arid and unpredictable Australian climate, which has selected for diverse means of creating, usurping, and co-opting domiciles. These ecological pressures have generated a positive feedback mechanism, such that adoption and modification of new host-plants by some thrips species creates further niches for additional ones.
- The remarkable morphological, behavioural and ecological variation represented by these thrips means that they can be considered as a microcosm for understanding the processes that generate biodiversity among all phytophagous insects, and indeed among all animals.

Hardback:

vi + 328 pages;
8 colour (27 figures);
420 black/white
photomicrographs;
indexes to subjects,
plants and insects.

Publishers:

Australian Biological
Resources Study &
Australian National
Insect Collection,
CSIRO, Canberra,
Australia.

Price:

AU\$55.00

includes surface postage
for overseas orders, and
GST and postage within
Australia

Order online:

ABRS: www.deh.gov.au/biodiversity/abrs/publications or
ANIC Bookshop: www.ento.csiro.au/anic/shop.html