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**Preface**

# Arachnology in space and time: novel research on arachnid systematics and biogeography

Contemporary molecular and comparative morphological methods have had a huge impact on the understanding of arachnid systematics and biogeography, as they have for many groups of invertebrates. This was clearly evident at the 19th International Congress of Arachnology, which took place in Kenting National Park, Taiwan, from 23 to 28 June, 2013. The Congress was one of the first arachnid meetings to be dominated by molecular papers in the systematics and biogeography sections, introducing new cases for studying behaviour and biogeography from molecular perspectives, and presenting several studies on species delimitation aided by DNA sequence data.

This special issue on Arachnology, which arose from the Congress, is composed of a series of invited papers that pioneer poorly explored arenas of arachnid systematics. These include examples from multiple arachnid groups, comprising the orders Pseudoscorpiones, Palpigradi, Opiliones and Araneae, as well as a diversity of geographical regions and methodologies.

Three papers with an Australian perspective focus on, or make use of, extensive material from Western Australia, dealing with special aspects of phylogeography and cryptic diversity in pseudoscorpions (Harrison *et al*. 2014) and mygalomorph spiders (Castalanelli *et al*. 2014), and phylogeny of palpigrades (Giribet *et al*. 2014). The former two papers highlight the diversity and importance of the Australian biota and provide broad sampling of groups previously thought to contain little diversity. Several other papers also focus on biogeographical aspects at multiple scales, and include studies on Caribbean araneids (McHugh *et al*. 2014), New Zealand mite harvestmen (Fernández and Giribet 2014) and Mediterranean hexathelid spiders (Opatova and Arnedo 2014). The special issue also includes the first phylogenetic hypothesis for the Palpigradi (Giribet *et al*. 2014), an example using phylogenies to study the evolution of group-living behaviour in kleptoparasitic spiders (Su and Smith 2014), and a paper that focusses on the systematics and taxonomic aspects of the large spider family Pholcidae (Huber *et al*. 2014).

This vibrant collection of papers provides an important contribution to knowledge of arachnids and points to the broad diversity of research being undertaken on systematics, taxonomic groups, questions and approaches in this field. It also adds to the considerable archive of arachnological publications in *Invertebrate Systematics*, highlighted most recently in a virtual issue on this topic (http://www.publish.csiro.au/view/journals/dsp_journal_virtual_issues_listed.cfm?VI=Arachnology&nid=121).

We hope that this special issue is of significant interest to both arachnology researchers and invertebrate systematists more generally, and that it serves to stimulate arachnid research even further.

Special Issue Editors
*Gonzalo Giribet*
*Andrew Austin*

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