

Further progress in historical biogeography

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Australian Systematic Botany has again dared to venture outside its usual remit to include studies on non-Australian and zoological themes. This first occurred in 1991 (Volume 4), in which the first issue focused on plant and animal distributions of the Southern Hemisphere. The issue proved to be so popular that it was later released as stand-alone book titled *Austral Biogeography* (Ladiges *et al.* 1991). That volume included new methods and techniques in historical biogeography at the time, as well as discussions on endemism and biotic areas. We have continued this tradition with two Special Issues focusing on similar biogeographic themes.

In the current issue, Historical Biogeography: Part 2, we have attempted to showcase as many methods and points-of-view within historical biogeography, a field still producing a multitude of new methods and techniques. The field of biogeography is also constantly reviewing its own literature, in order to facilitate discussion about the fundamental concepts, such as the nature of biogeographical units, how it incorporates time and endemism.

In this issue we cover methods in conservation (Chen and Escalante 2017; Giraudo and Arzamendia 2017); the use of metapopulations to understand older distributions in Pacific islands (Heads 2017); utilising topographic units in understanding endemism patterns in Atlantic Forests (Amorim and Santos 2017); a review of biogeographic units and the methods used to propose them (Ferrari 2017), as well as how this is done in the Neotropical region (Noguera-Urbano and Escalante 2017); the relationship between environmental factors and areas of endemism (Noguera-Urbano and Ferro 2017); and a new method on temporally slicing biotic areas (King and Ebach 2017).

As Historical Biogeography continues to grow in the number of practitioners and methods, it attracts many new trends and approaches (e.g. niche conservation). As it attracts new approaches and viewpoints, these do not automatically replace older or existing ones, unless those older approaches are demonstrated to be incorrect. Science is not about jumping on the latest trend, but rather incorporating new developments with those of previous practitioners. Biogeography has a habit of reinventing itself as new generations of biogeographers

rediscover unresolved problems (e.g. Weber’s Line v. Wallace’s Line) in an era of new methods and data (e.g. molecular data and molecular clocks). In 100 years, with the development of even newer technologies and data, biogeographers will still be arguing over trans-Pacific patterns and rediscovering the same century-old hypotheses. That is something to cherish rather than rebuke.

Biogeographers can find comfort in the fact that some problems may simply take decades to comprehend let alone resolve. As these two Special Issues in *Australian Systematic Botany* have demonstrated, biogeographers improve on existing methods in order to move historical biogeography forward and into the next century.

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