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Can the relationships of speargrasses/taramea (*Aciphylla*; Apiaceae) be resolved with ddRADseq?

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Aciphylla is a genus of plants in the carrot family with a huge diversity of forms, ranging from tiny, soft-leaved herbs, to large spiky mounds a few metres across with huge, pointed clusters of flowers. *Aciphylla* comprises ~42 species, two of which are endemic to Australia with the remainder confined to New Zealand. A further ~10 tag-name entities have also been identified in New Zealand, some of which are of conservation concern. *Aciphylla* was last revised completely in the 1950s, with a later revision of some species published in the 1970s and further unpublished morphological work undertaken in the early 2000s. ITS sequences published in 2001 showed low variation and poor resolution, indicating a recent radiation. Here we trial ddRADseq to examine its usefulness for examining the relationships and species boundaries within *Aciphylla*. The ddRADseq data supports some of the relationships between species suggested based on morphology but also indicates some unexpected relationships. The parental species of several putative hybrids included in the analysis were able to be confirmed. The relationships of *Aciphylla* to the other New Zealand Apioideae (*Anisotome*, *Gingidia*, *Lignocarpa* and *Scandia*) remains to be resolved, as published genetic data (Sanger sequencing) indicates some generic boundaries may need revision.

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