

## 6. POSTER FOR COMPETITION

### **Assessing relictual status via alpha and beta diversity**

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*Reedia spathacea* F.Muell is a declared rare species of sedge (Cyperaceae) found in the peat swamps of the Jarrah Forest and Warren Biogeographical Regions. *Reedia* has been identified as a Gondwanan relict species on the basis of (relatively little) morphological and genetic evidence. Characteristics of relictual taxa in the south-west include being of Gondwanan or Pangaeian origin, thus having become restricted to mesic habitat from a previously wider distribution and retaining some ancestral morphological states. They also are expected to have high beta genetic diversity with relatively low alpha diversity and be phylogenetically distinct from sister taxa. Exploration of these criteria through microsatellite analyses will be presented. If this study supports the recognition of *Reedia* as a highly-restricted relict then the genetic consequences of historical population decline or extinction can be addressed. In a broader sense, our understanding of organisms that have become rare will be improved, in turn bettering our understanding of the pressures that have caused contraction in ranges historically, and helping us to predict future trends in the face of a rapidly changing climate



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