Species or Lineages within Species: interrogating genomic datasets for the identity of candidate species within *Bassiana duperreyi*

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Species or Lineages within Species:

- Species are often regarded as fundamental units of conservation concern, and correct species delimitation is essential for an unbiased evaluation of biodiversity in a region or a country (Bickford et al., 2007).
- Many lineages within species are deeply divergent and some can be regarded as incipient or undescribed species.
- The diversity represented by lineages within currently accepted as species.
- Our specific goal was to assess lineage diversity within *B. duperreyi* and make an informed decision on which lineages should be regarded as species and which should be regarded as representing substantial diversity within species.

Sample Collections

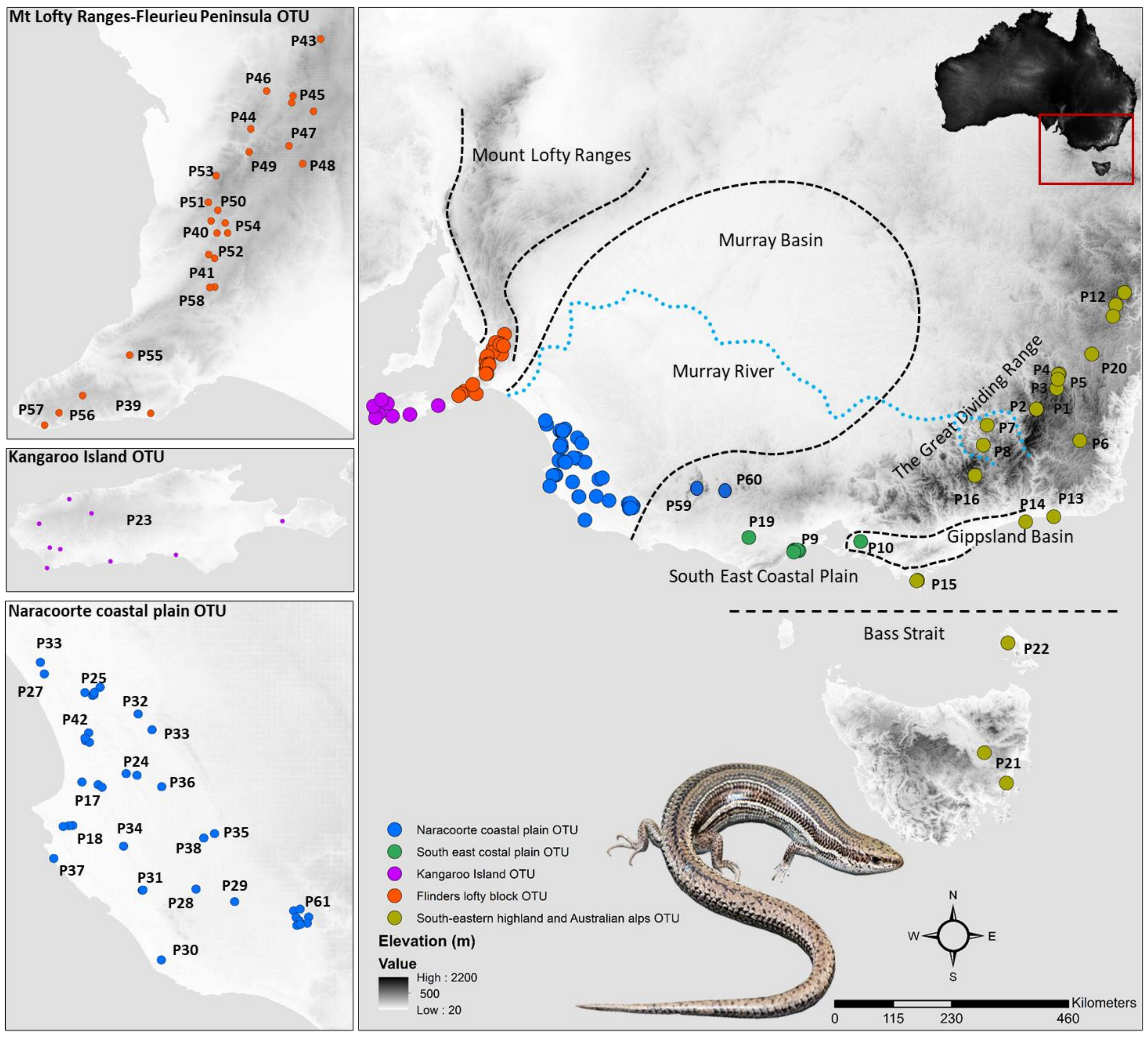

Figure 1. Location of *B. duperreyi* populations SNP genotyped from across the range of the species and including the location of recognised biogeographic barriers. Colour scheme is consistent with other figures and OTUs as described in other figures in this poster.

- We sampled 286 individuals of *B. duperreyi* from 63 sample localities across the range of the species.
- SNP data generated- Diversity Array Technology (DArT-Seq)
- 232,230 polymorphic SNP loci analysed for this study

Does *B. duperreyi* comprise more than one species?

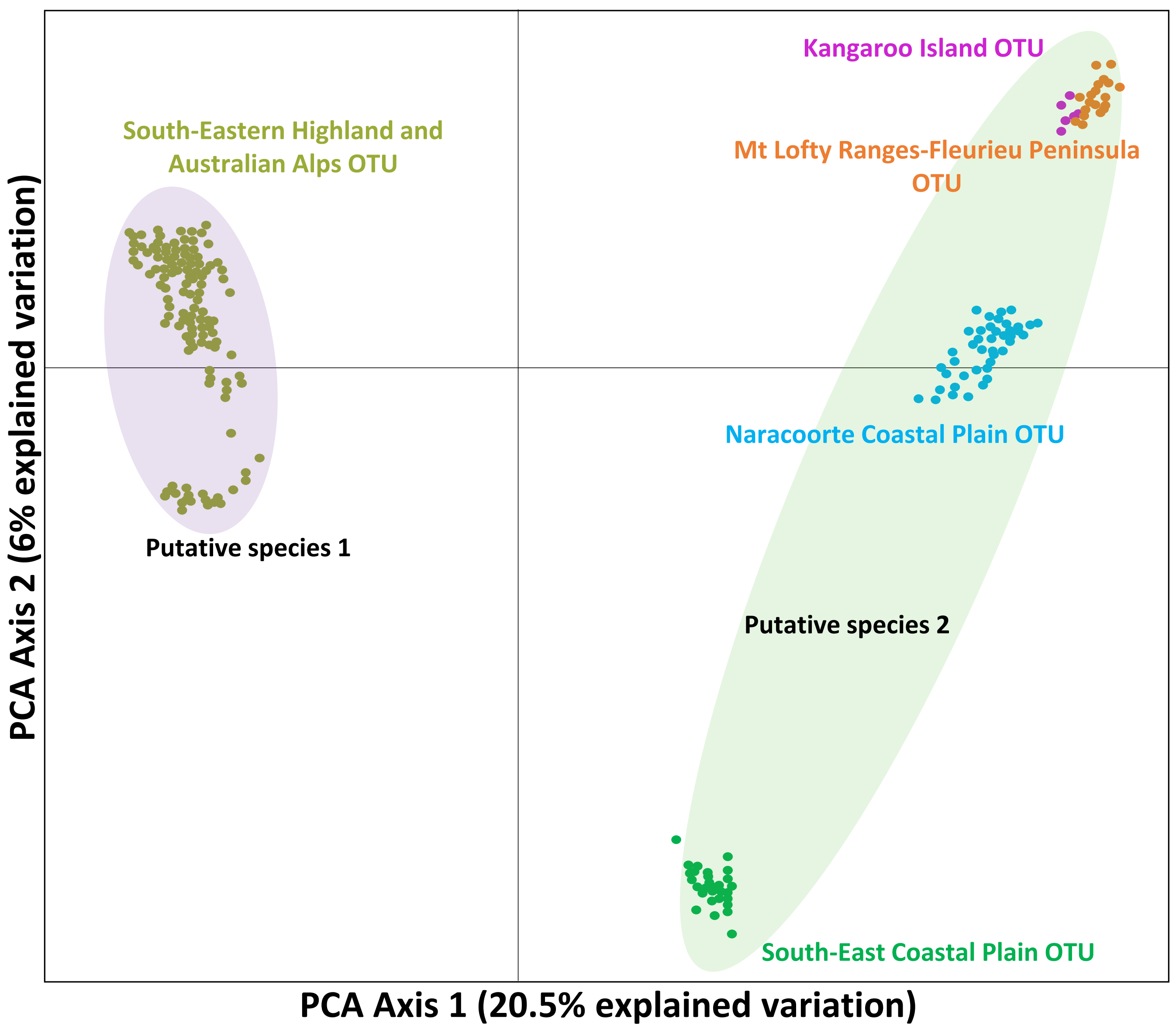

Figure 2. Genetic similarity between individuals using principal coordinates analysis of 12.451 SNP (in group analysis only and recalcitrant individual or population does not present here). Five diagnosable OTUs are defined. Axes not to scale.

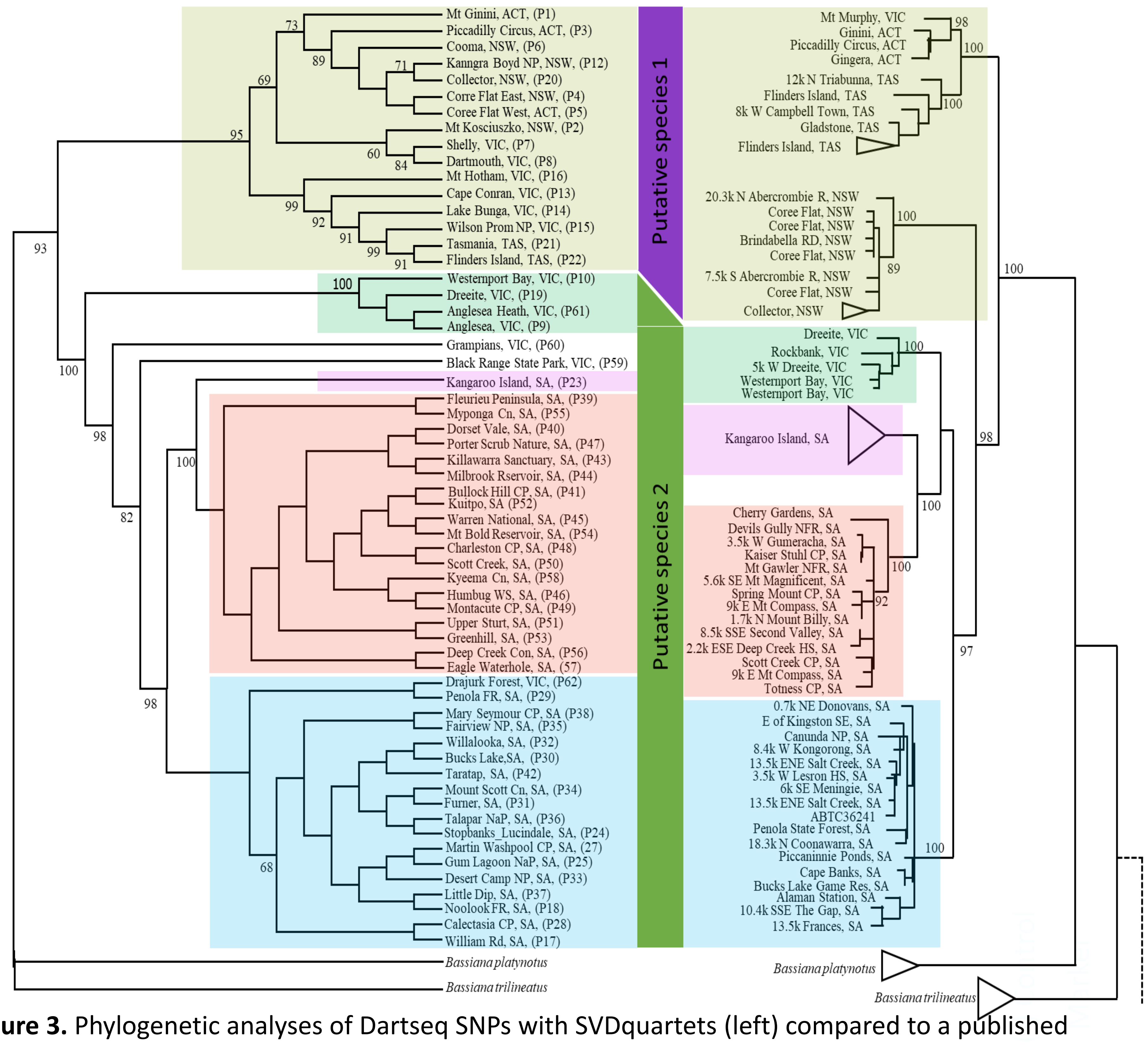

Figure 3. Phylogenetic analyses of Dartseq SNPs with SVDquartets (left) compared to a published phylogeny of two partial mitochondrial genes (ND2 and ND4) (not to scale) (See Dubey and Shine, 2010). Bootstrap support values are reported for all nodes.

- We propose that there are two putative species within *B. duperreyi*. The first is distributed in the south-eastern highland and alpine region and the second is an aggregation of diagnosable lineages (ESUs) occupying the lower elevation regions and coastal regions (Figure 2) (See Dissanayake et al. 2022).

FOR FURTHER INFORMATION

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ACKNOWLEDGEMENTS

For their assistance with museum collection access and tissue loans, we would like to thank Sally South, Ralph Foster, Steve Donald, Mark Hutchinson of the South Australian Museum, and Katie Date of the Museum Victoria. We are grateful to Lasanthika Thewarage for assistance with fieldwork. Additionally, we would like to thank Leo Joseph and Sally South their valuable comments on early versions of the manuscript. Samples from University of Canberra field trips were performed under UC Animal Ethics approval (AEC 17–26), reciprocally assessed by the CSIRO Wildlife and Large Animal-Animal Ethics Committee, and collected under ACT (LT201826, LT2017956), NSW (SL102002) and Victoria (10008558) permits. This work was funded by Australian Research Council Grants DP110104377 and DP170101147 (awarded to A.G., and C.E.H., and other investigators) and the ACT Herpetological Association (awarded to D.S.B.D.). D.S.B.D. was supported by a Ph.D. Weeden Research Scholarship from the University of Canberra and CSIRO Research Plus Postgraduate Scholarship.