

## Using target capture to resolve species complexes within a genus of parasitic plants

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*Aphyllon* is a small genus of flowering plants that live as parasites, relying on a host plant for nutrients rather than performing photosynthesis. Many species look very similar, which has made it difficult for botanists to clearly define species boundaries or understand which of these species are most closely related to each other. Some of the species have been informally grouped into species complexes with their presumed closest relatives. Similar morphology is not the only contributor to this confusion; previous research suggests that *Aphyllon* has a gene history complicated by hybridization and/or incomplete lineage sorting. In this study, we will use a DNA target capture technique to isolate up to 353 different target genes from each sample for sequencing, analysis, and phylogenetic tree assembly. Our preliminary study of 25 samples validated the efficacy of the target capture probe kit (Angiosperms353 kit) on *Aphyllon*; many of the 353 genes targeted were successfully retrieved. However, some relationships in the tree remained poorly supported and unresolved; some species previously hypothesized to be in one species complex did not group together. Over 120 samples are currently being processed in an effort to infer a detailed phylogenetic tree to clarify how various *Aphyllon* species are related and improve our understanding of their evolution.