PATTERNS OF PLANT DIVERSITY IN BANDED IRONSTONE RANGES COMPARING THE ENVIRONMENT OF FOUR ENDEMIC *TETRATHECA* TAXA

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Massive banded ironstone ranges are common landforms of the semi-arid Eastern Goldfields region of Western Australia. Increased world demand for iron ore has focussed the attention of miners on the ranges yet a detailed knowledge of their vegetation, flora and ecology remains far from complete. Recent detailed floristic studies on individual ranges show high beta diversity in species composition between adjacent ranges and highly localized distributions for many species. Exemplifying patterns of plant diversity on the ranges are taxa in the genus *Tetratheca* (Tremandraceae). Five taxa, are presently known from five adjacent ranges occurring within a 50 km radius; *T. erubescens* on the Koolyanobbing Range; *T. aphylla* on the Helena and Aurora Ranges; *T. harperi* on the Jackson Range, *T. paynterae* subsp. *paynterae* on Windarling Range; and *T. paynterae* subsp. *cremnobata* on the Die Hardy Range. All taxa are small leafless woody shrubs occurring in similar upland areas of the ranges. Why adjacent ranges each have an endemic *Tetratheca i*s unknown. Evaluating the causes of rarity for the taxa is of intrinsic interest for further understanding the extraordinary patterns of plant diversity in south-west Australia, and will aid in determining management priorities especially for *T. paynterae* subsp. *paynterae* which is threatened by mining. In 2004 we began comparative investigations of the environment, reproductive biology, demography and population dynamics of the banded ironstone tetrathecas. In this study we present results comparing the physical environment and associated plant communities for four of the taxa.