

FAUNA

PROSTRATE FLAME FLOWER: THE LONG ROAD TO RECOVERY

Benson Todd



Since its rediscovery in 1995, the prostrate flame flower (*Chorizema humile*) has embarked on a journey of recovery aided by landholders, researchers and DEC staff. While this critically endangered species has a long way to go, significant steps have been made to ensure its long term security.

The prostrate flame flower is a small prostrate (ground hugging) shrub that grows to approximately 60cm in diameter. The many slender and rigid stems radiate out from a central root and have obovate leaves arranged alternately along the stem. In winter and spring it produces 'standard pea flowers' in fiery shades of red, orange and yellow. This species was first collected near Cue in 1931 by William Blackall. Further specimens were collected east of Geraldton in the Kojareena area and from the Strawberry area east of Dongara in the late 1960s. An intensive survey of these areas was undertaken by research botanist Diana Papenfus in 1995 in an effort to relocate the species, however efforts proved unsuccessful.

That was until later that year when Diana showed a specimen of the

prostrate flame flower to Alison Doley who recognised the plant and promptly showed Diana to an area on her property east of Coorow where 17 plants were located. With the fortuitous rediscovery of what had been thought to be a lost species, attention quickly turned to searching for further new populations.

In 1996 Diana focused her search efforts in the general area of the newly found population resulting in the location of three further populations, one in the Coorow area and two some 200 km south near the town of Bindi Bindi. With the number of known plants totalling 31, the species was declared as rare flora, and in 1998 ranked as critically endangered. The ranking was prompted by the low number of plants and the threats to the species. Threats to this species' survival noted in 1998 included grazing and trampling, competition from weeds and lack of recruitment. The location of populations on degraded road verges and small bush remnants on private property was also a consideration in the species being ranked as critically endangered.

An Interim Recovery Plan

(IRP) outlining recovery actions to ensure the long-term survival of the prostrate flame flower was prepared in May 1999. The IRP triggered a further survey to be undertaken by Stephen Davies in 2000 resulting in further populations being discovered in both the Bindi Bindi and Coorow areas.

The sites where new populations were found were characteristically in heath or shrubland on grey duplex soils among granite and chert outcrops. They matched the previous known sites and provided a good definition of the plant's preferred habitat.

Other initial recovery actions undertaken included the installation of rare flora markers on road verges to ensure that road maintenance activities did not impact on the species, limited seed collection, fencing of some populations on private property and the publication of a species information sheet.

The IRP was revised in 2006 and further monitoring and surveys were undertaken. Surveys resulted in the number of known populations increasing to 14 but only 117 plants were recorded. The spread

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of the populations remained the same with two distinct groupings, one near Bindi Bindi and one at Coorow. Monitoring of the existing populations also showed that herbivores - kangaroos and rabbits - found the prostrate flame flower irresistible, with all plants showing signs of heavy grazing. Even those plants with wire netting laid over to protect them were grazed as the kangaroos had learnt that by standing on the wire they could still access the soft green foliage. Grazing and low rainfall in the Midwest had taken its toll, reducing the plants' ability to flower and set seed, posing a risk to species survival by inhibiting recruitment and limiting recovery actions such as seed collection



Steel mesh cages were made to protect the plants from grazing. All populations received the cages with the last being installed on Christmas Eve of 2006. The cages proved robust enough to protect the plants from grazing with all responding with lush new growth and prolific flowers. In the following season staff from DEC's Threatened Flora Seed Centre were able to collect precious seed.

Seed collection is often a key

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step in the recovery of rare flora species; stored in an appropriate manner seed can last for decades providing an insurance policy against extinction and allowing for recovery actions such as reintroductions or translocations. Seed is best collected from a range of plants and populations to ensure the preservation of genetic diversity.

Seed from the prostrate flame pea is most effectively collected by placing a small nylon bag over immature fruit and returning approximately a week later when the fruit has opened, expelling the seed into the bag. No more than 10% of seed is removed from any one plant in a season; thus allowing for natural recruitment.

With the existing plants protected from grazing and a good representation of seed in storage, the focus of recovery shifted to the establishment of populations in secure locations. The process of establishing a new population of flora with seedlings produced in nurseries is known as translocation. For species of rare flora, a careful planning process is undertaken to ensure that no harm is done to the species by undertaking such works. It was decided that two translocations of the prostrate flame flower would be undertaken, one in the Bindi Bindi area using seed from the southern group of populations and one in the Coorow area with seed sourced from the Coorow populations.

In winter of 2007, 206 seedlings grown from seed by the Botanic Gardens and Parks Authority were planted in a nature reserve near Bindi Bindi. The plants received protective caging and will be watered via a

gravity-fed irrigation system for the first two summers to assist in their adjustment to the world outside of the nursery. The plants are monitored every six months to assess their progress; to date 75% have survived the first summer with some even setting seed.

With the Bindi Bindi translocation progressing well, and the Yerecoin Bush Fire Brigade maintaining the watering system, planting of the Coorow translocation was the next step. Site selection was difficult east of Coorow because of the lack of suitable habitat represented in the conservation estate. The offer of a suitable site on the Falconer's LFW registered property at Waddy Forest east of Coorow was too good to refuse. Planting of 136 seedlings was completed there in June 2008.

Further planting is proposed at the Bindi Bindi and Coorow translocation sites with the aim of achieving a stable population of around 200 plants. Monitoring of populations will continue, so will searches for new populations, but for now this once lost species has been found and is now well on the road to recovery.

Benson Todd is Flora Conservation Officer at DEC Jurien Bay. He can be contacted on 9652 1911.



A misty morning at the Coorow translocation site. All photos: Benson Todd.