

## Occurrence and spread of Sea Spurge (*Euphorbia paralias*) along the west coast of Western Australia

*Euphorbia paralias* L. (Sea Spurge) is a herbaceous perennial native to the Atlantic and Mediterranean coasts of Europe, where it is locally abundant on sandy shores, young sand dunes and fine shingle (Blamey & Grey-Wilson 1987). It has become established along the southern coast of mainland Australia from Western Australia to Victoria and north-east Tasmania (Hnatiuk 1990).

In Western Australia the first specimens of *E. paralias* were collected at Albany in 1927 and the species was only known from the south coast until 1987. Heyligers (1989) reported that Sea Spurge was widespread in 1987 on beaches between Walpole and Eucla, then disjunct to the Busselton area of the west coast, with a single plant found further north at Rockingham. He postulated that the species reached new areas by transport on boats and that the Rockingham plant had been introduced from the Busselton area.

In 1992 Sea Spurge was found in abundance along the seaward face of the dunes at Herring Bay (voucher: *Keighery* 12949) on the north-west coast of Garden Island, opposite Rockingham. Because this area is a major public mooring site, this population probably arrived on a boat or in gear which had seeds on it. The size of the population suggests that it had been resident for some time. In 1993 numerous plants were also located on beaches to the north and south of Herring Bay and scattered plants were found on the eastern side of the island. Since this abundant and highly visible species was not recorded previously, it must have arrived since the date of the last survey of Garden Island in 1979 by Marchant & Abbott (1981). The plant at Rockingham (Heyligers 1989) almost certainly came from Garden Island, not the Busselton area.

Surveys in 1995 showed that *Euphorbia paralias* was also abundant between Minninup Beach (*Keighery* 13947) and Busselton and present in scattered but large populations around Bunbury Harbour and along the Leschenault Peninsula north of Bunbury (*Keighery* 13948), especially near boat ramps. An isolated population was located at Halls Head, Mandurah, also near a boat ramp.

In 1996 a total of 36 adult and juvenile plants of Sea Spurge were found along 100 metres of the eastern end of Longreach Bay at Rottneest Island (*Dodd s.n.*), growing with juvenile *Spinifex longifolius* at the seaward base of a foredune. No plants were found along the neighbouring Basin or Pinky Beaches. Longreach Bay is one of Rottneest's recognised mooring sites, which again suggests an association with boats.

These recent records suggest that *Euphorbia paralias* is actively colonising the west coast at present and the initial introductions are probably by boats. However, once established it can spread by drift, as seen in the Recherche Archipelago (*Keighery* 1995) where it was recorded on one island in 1950 and is now present on all islands with beaches throughout the Archipelago. It seems inevitable that Sea Spurge will colonise the beaches of all offshore islands around Perth, and probably extend north to at least the Jurien Bay Islands (30° 15' S, 115° 01' E). It could also become a major component of the strand flora of mainland beaches along the west coast between Bunbury (33° 19' S, 115° 38' E) and Perth (32° 02' S, 115° 44' E) during this period. The effects of this invasion on the strand and dune flora are currently unknown, but require monitoring.

### References

- Blamey, M. & Grey-Wilson, C. (1989). "The Illustrated Flora of Britain and Northern Europe." (Hodder & Stoughton: London.)
- Heyligers, P.C. (1989). Sea Spurge (*Euphorbia paralias*), a strandline pioneer new to the Perth region. W. Austral. Naturalist 18: 1-6.
- Keighery, G.J. (1995). Additions to the flora of the Recherche Archipelago. W. Austral. Naturalist 20: 133-138.
- Hnatiuk, R.J. (1990). "Census of Australian Vascular Plants." Bureau of Flora and Fauna Series No. 11. (AGPS: Canberra.)
- Marchant, N.G. & Abbott, I. (1981). Historical and recent observations on the flora of Garden Island, Western Australia. Res. Notes W. Austral. Herb. 5: 49-62.

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