

The distribution of introduced *Rumex* (Polygonaceae) in Western Australia

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Abstract

Moore, John and Scott, John K. The distribution of introduced *Rumex* (Polygonaceae) in Western Australia. Kingia 1(1) : 21-26(1987). The paper records nine alien species of *Rumex* (*R. acetosella* L., *R. bucephalophorus* L., *R. conglomeratus* Murray, *R. crispus* L., *R. frutescens* Thouars, *R. obtusifolius* L., *R. pulcher* L., *R. sagittatus* Thunb., *R. vesicarius* L.) for Western Australia, of which three (*R. bucephalophorus*, *R. frutescens* and *R. sagittatus*) are considered to be no longer present. A distribution map based on a 1° lat. x 1.5° long. grid is given for each species.

Introduction

The genus *Rumex* (Polygonaceae) in Australia consists of eight indigenous and nine introduced species (Rechinger 1984). The distribution within Australia is given for the indigenous species by Rechinger (1984) and amongst the introduced species; *R. acetosella* L. has been mapped across all states (Archer and Martin 1979), in Victoria (Churchill and Corona 1972, Willis 1972) and in Queensland (Kleinschmidt and Johnson 1977); *R. crispus* L., *R. conglomeratus* Murray, *R. pulcher* L., *R. obtusifolius* L. and *R. sagittatus* Thunb. have been mapped in Victoria by Churchill and Corona (1972), and Willis (1972). *Rumex vesicarius* L. has been noted as occurring in central Australia and not the northern half of the Northern Territory (Chippendale 1972). In this paper we give the distribution of the introduced species in Western Australia.

Methods

The methods used to map *Rumex* followed that of Hnatiuk and Maslin (1980 a&b). The nine species mapped were arranged alphabetically and the occurrence in a grid cell were indicated.

The maps are based partly on specimens in the Western Australian Herbarium (PERTH). As well ground surveys were made covering all the grid cells included in the area bounded by Carnarvon, Kalgoorlie and Esperance. The ground survey method was to examine plants seen alongside roadsides and in adjoining farmland. This was done opportunistically between 1981 and 1984. A questionnaire distributed to farmers throughout the south west region also gave an indication of where to search. Field identification of species was based on fruiting plants and Rechinger's recent survey (1984). As well surveys were carried out with Rechinger to confirm field identifications.

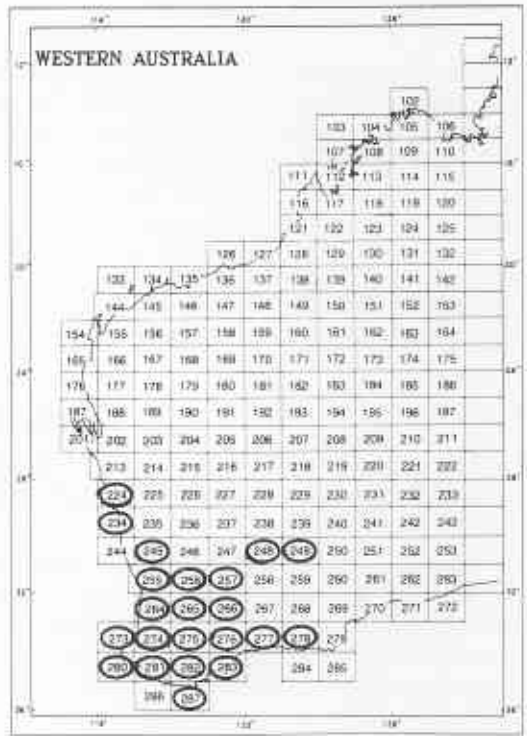
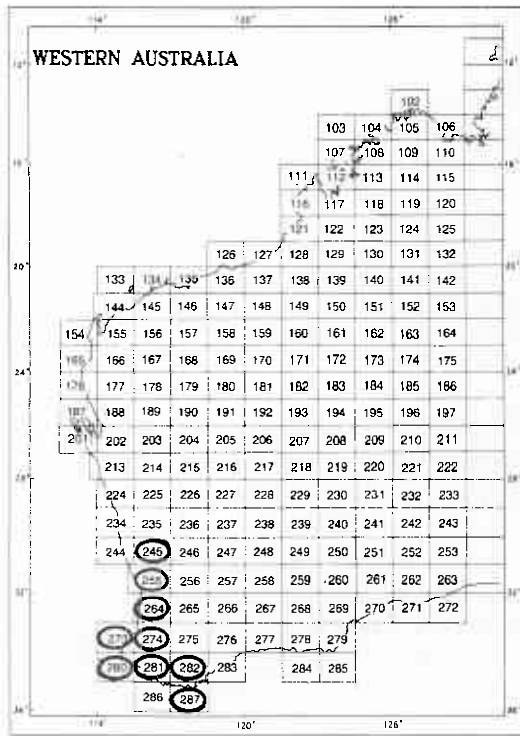
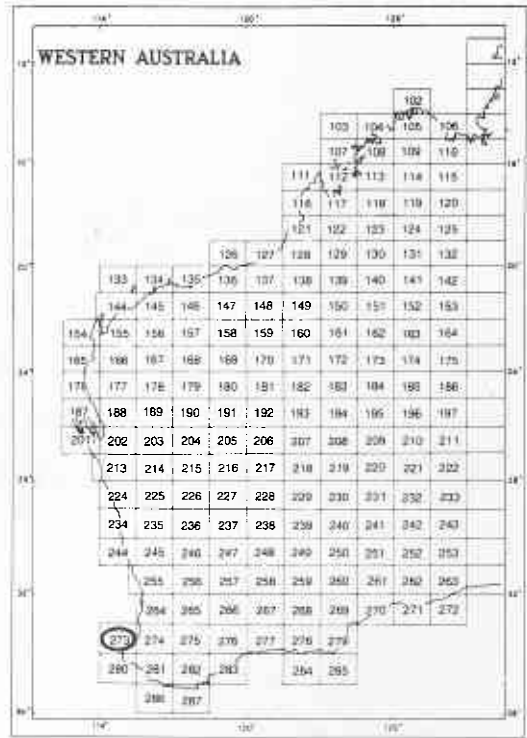
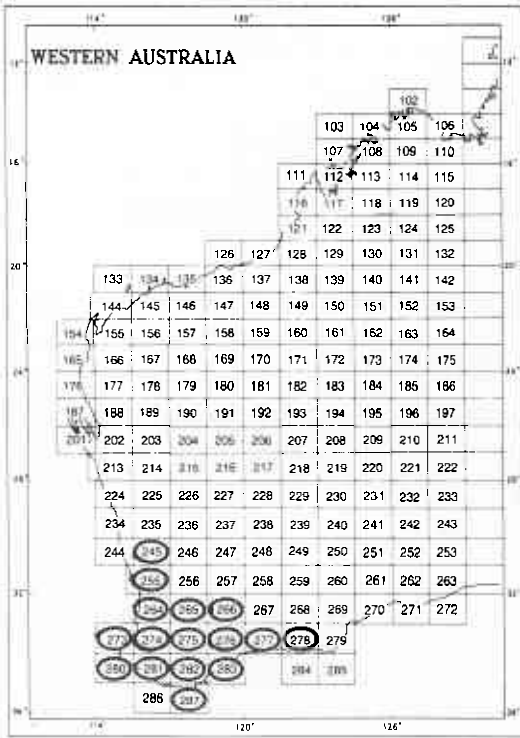
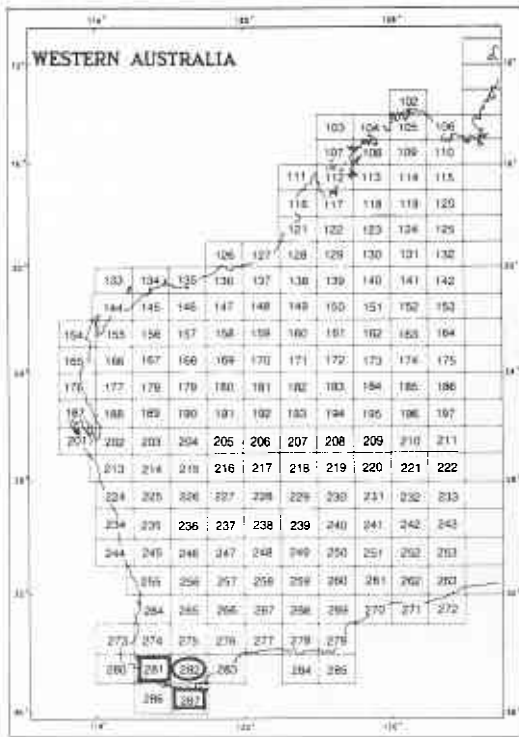
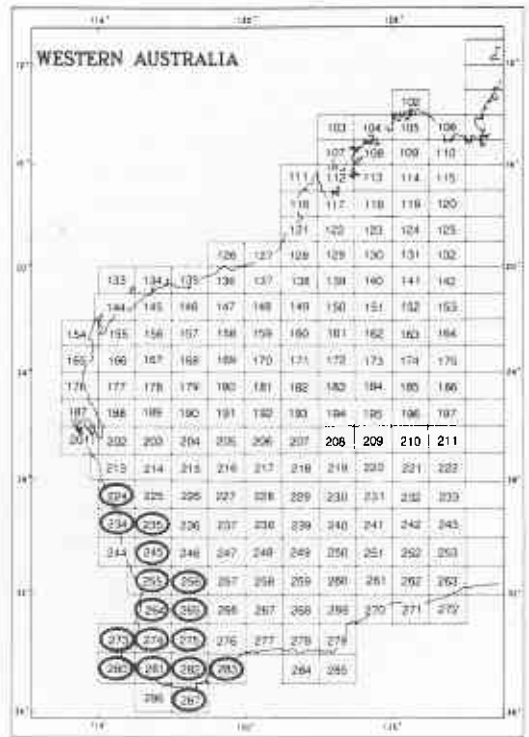


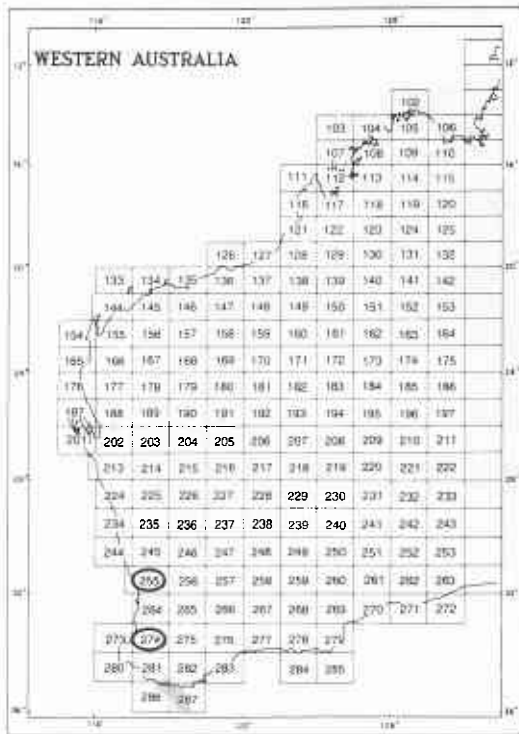
Figure 1. Distribution of *Rumex* species introduced in Western Australia.



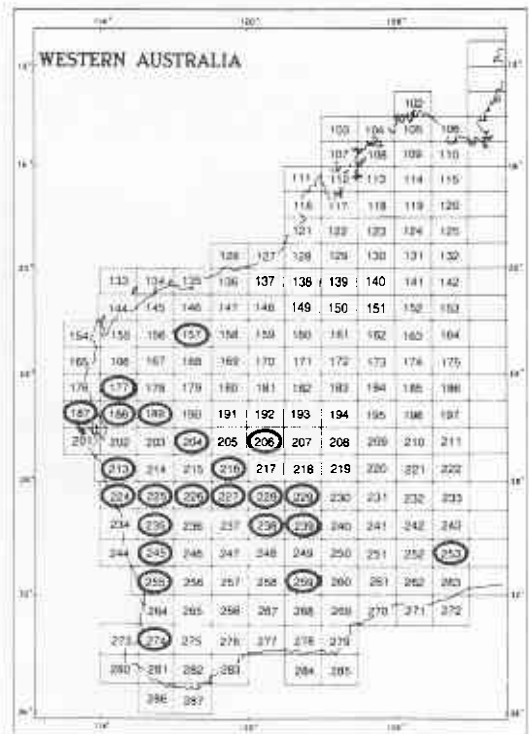
Rumex frutescens (circled) and *Rumex obtusifolius*



Rumex pulcher



Rumex sagittatus



Rumex vesicarius

Figure 1 (continued). Distribution of *Rumex* species introduced in Western Australia.

Results and Discussion

Figure 1 shows the distribution of *Rumex* species introduced in Western Australia. All the introduced species, except *R. vesicarius*, are restricted to the south west of Western Australia (Figure 1). In this area *R. crispus* was the most widespread species, being found in 22 grid cells. This number is however inflated by single occurrences in the dryer areas such as for Kalgoorlie where the plants are found near water sources in townships. *Rumex pulcher* and *R. acetosella* were both found in 16 grid cells. The distribution given here for *R. acetosella* corresponds with that published in Archer and Martin (1979). The next most abundant species in the south west was *R. conglomeratus* which occurred in nine grid cells, most of which were restricted to the extreme south west corner. Only one other species, *R. obtusifolius*, is known to be definitely present in the south west. It is restricted to two grid cells on the south coast.

The remaining three recorded introduced species in the south west are possibly no longer extant. All are only known from herbarium specimens. In 1981 both authors examined the collection area of *R. bucephalophorus* but no plants were found. This plant was collected once in 1963. *Rumex sagittatus* has only been collected from the urban areas of Perth and Bunbury (Rechinger 1984) and is not known from agricultural areas. Lastly the only known specimen of *R. frutescens* was collected by one of us (Moore) in 1981. Since then visits to the collection site by the authors in 1982 and 1984, and Rechinger (1984) have failed to find further plants.

Rumex vesicarius will probably prove to be the most widespread species with further collecting in the centre of Western Australia. At present it is known from 23 grid cells however at least two, 255 and 274, in the wetter south west area are probably incidental records.

Only one region, the far north of Western Australia, has neither introduced nor native species of *Rumex* (Rechinger 1984).

In conclusion nine species of *Rumex* have been recorded as introduced into Western Australia and six are definitely established. Eight species are found in the south west while the remaining species occurs mainly in the central dryer areas.

Acknowledgements

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References

- Archer, A. C. and Martin, P. M. (1979). The range and status of *Rumex acetosella* in Australia. "Proceedings of the 7th Asian-Pacific Weed Science Society Conference", Sydney. pp. 347-350.
- Chippendale, G. M. (1972). Checklist of Northern Territory plants. Proceedings of the Linnean Society of New South Wales 96: 207-267.
- Churchill, D. M. and Corona, A. de (1972). "The distribution of Victorian plants". The Dominion Press, North Blackburn.
- Hnatiuk, R. J. and Maslin, B. R. (1980a). The distribution of *Acacia* (Leguminosae-Mimosoideae) in Western Australia, Part 1. Individual species distribution. Western Australian Herbarium Research Notes No. 4: 1-103.
- Hnatiuk, R. J. and Maslin, B. R. (1980b). The distribution of *Acacia* (Leguminosae-Mimosoideae) in Western Australia, Part 2. Lists of species occurring in 1° x 1.5° grid cells. Western Australian Herbarium Research Notes No. 4: 105-144.

- Kleinschmidt, H. E. and Johnson, R. W. (1977). "Weeds of Queensland". Government Printer, Brisbane. 469 pp.
- Rechinger, K. W. (1984). *Rumex* (Polygonaceae) in Australia: a reconsideration. *Nuytsia* 5: 75-122.
- Willis, J. H. (1972). "A handbook to plants in Victoria", vol. 2, "Dicotyledons". Melbourne University Press, Carlton, Victoria. 832 pp.