Biology of Sharp Rush (*Juncus acutus*)

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urban nature

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•An erect, very spiny plant which forms a perennial tussock up to 2 m high

• Reproduces from seeds and rhizomes

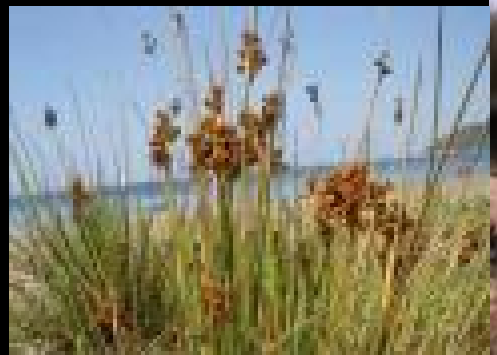
• Stems and leaves are filled with continuous pith

Natural distribution

Africa
Asia
Europe
North America

Introduced

New Zealand
South America
Australia



•Invades saline or brackish to freshwater wetlands on calcareous soils from Geraldton to Esperance

Juncus acutus subsp. *acutus*

IBRA 5.1 bioregions
Specimen record
Locality checked
Locality under review
Locality unverifiable

Broome
Halls Creek
Karratha
Wiluna
Geraldton
Kalgoorlie
Perth
Esperance
Albany
0 km 400

Map by Paul Gioia, WA Herbarium. Current at April 13, 2006

•Flowers - small, green to brown, near the tops of the stems, appear mainly during spring and summer. New plants do not flower until they are at least two years old by which time perennial crown and rrhizomes have developed

•Stems - numerous, erect, cylindrical, up to 4 mm diameter, smooth, dark-green and pithy, 1 to 2 m high, tapering to a sharp point.

•Leaves - similar to the stems but without flower heads and tipped by a very sharp spine. New leaves and stems are continually produced as old ones die, although most new growth occurs during spring.

• Plants are long lived

Roots are a thick fibrous mat with short rhizomes. Plants can establish vegetatively from pieces of old crown, following cultivation or mechanical disturbance.

Seed

- Plants spread mostly by seed, which germinates at almost any time of the year. Water and wind are the main dispersal agents. Farm implements, vehicles, stock, and hay will also spread seed.
- Each capsule can hold up to 200 seeds and each plant can produce up to 4000 seeds. The seed has high rates of germination (75%) and seed may possibly persist for many years in the soil.
- Availability of light is a major limiting factor for germination so wet, sandy open substrates are favoured sites for establishment of new populations.

Impacts of Spiny Rush on Native Vegetation

Observations indicate Spiny Rush significantly reduces native species richness in the wetland plant communities it invades.

Sporobolus ***virginicus*** **Marine Couch**

Atriplex hypoleuca

Suaeda australis Seablite

Fire and Sharp Rush Management

- Most plants in a population of Sharp rush will re-sprout following fire

- Fire creates optimal conditions(lots of light and open bare ground) for germination of seed and establishment of new populations.

- Herbicide control of large, dense infestations of Sharp Rush can leave high fuel loads and also a biomass that prevents regeneration of the native plant community

Management Implications.

•Open damp areas on calcareous soils are favorable for seed germination and so particularly susceptible to invasion

•Late spring following the flush of new growth is probably best time for control

•In wetter areas, where there is a lot of standing water, this may not be possible

•Following fire is an optimal time to control populations

•Fire may be part of a restoration strategy

Further Reading

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