

Distichlis distichophylla* (LABILL.) FASSETT., A NEW COASTAL RECORD FOR A SALTMARSH GRASS IN NEW SOUTH WALES*Peter J. Clarke** ^{1,2}1 CSIRO Division of Fisheries,
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Several grass species are found in the saltmarsh and saltmarsh fringe vegetation in New South Wales. The most widespread and abundant is *Sporobolus virginicus*, (nomenclature follows Hnatiuk, 1990) which often forms monospecific swards in the north of the state (Adam, Wilson and Huntley, 1988). Other grasses commonly found in NSW saltmarshes include *Agrostis avenacea*, *Agrostis billardieri*, *Cynodon dactylon*, *Paspalum vaginatum*, *Phragmites australis*, *Polypogon monspeliensis*, *Parapholis incurva*, *Stipa stipoides*, and *Zoysia macrantha*. At higher latitudes *S. virginicus* is replaced by *Distichlis distichophylla*, which is found on saltmarshes in South Australia, Victoria, Tasmania and, very rarely, in Western Australia. Until now it has not been collected from coastal New South Wales although there is a small population on a disturbed site at Lake Cargelligo in the central west which might represent an introduction (Adam and Smith-White, pers. comm.). Curiously enough, Maiden (1897) reports "salt grass" *Distichlis maritima* Rafin. as occurring in "all the colonies except Western Australia and Queensland". This distributional account may come from Ferdinand von Mueller's Australian plant census of 1882 which lists *Distichlis maritima* for NSW.

Recently one of us (PJC) collected *D. distichophylla* from a saltmarsh at Wowly Gully in Jervis Bay (the specimen has been lodged in the NSW National Herbarium). Subsequently a reconnaissance of saltmarshes south of Jervis Bay found *D. distichophylla* at Murrah Lagoon about 10 km south of Bermagui in NSW, although the material was

not flowering. The occurrence of *Distichlis* in only two southern NSW saltmarshes is perplexing as it is widespread in Victoria and occurs at Malacoota just south of the NSW border. Extensive searches of estuaries in southern NSW and in Jervis Bay have failed to locate other populations of *Distichlis*, despite the occurrence of apparently suitable habitats.

In the vegetative state *Distichlis* is very similar to *Sporobolus* and distinction between the two can be difficult. The leaves of *Distichlis* are more rigid than those of *Sporobolus*, but this is a difficult feature to pick up in the field. However, if the plant is dug up the rhizome of *Distichlis* has distinctive, slightly inflated, sheathing leaves. When fertile, *Distichlis* can readily be distinguished from other saltmarsh grasses (see Figure 1). One of the unusual features of this species is that it is a member of one of only four Australian grass genera that are dioecious, having male and female sex organs on separate plants (Conner and Jacobs, 1991). At Wowly Gully, *Distichlis* appears to initiate inflorescences during September and flowers in October, with the senescent spikes persisting for a few months. All inflorescences at the Wowly Gully location appear to be female which is consistent with the observation of Conner and Jacobs (1991) that the two sex forms rarely co-occur and that there are more female populations than male.

The discovery of *Distichlis distichophylla* in Jervis Bay adds to the list of southern saltmarsh species found at their northern limits in this location (see Adam and

Hutchings, 1987). At Wowly Gully *Distichlis* occurs in the upper marsh together with *Gahnia filum*, *Sporobolus virginicus* and *Wilsonia backhousei*. The total extent of the population has been mapped and is estimated to be about 100 m². At Murrah Lagoon *Distichlis* occurs with *Gahnia filum* and *Sclerostegia arbuscula* in the upper marsh.

Every effort should be made to conserve these highly localised populations, and in particular the population in Wowly Gully as it is the northern-most record for the species. Both populations are apparently contained within the boundaries of wetlands covered by SEPP 14, but at Wowly Gully the saltmarsh has been extensively disturbed by off-road vehicles. Unnecessary disturbance to the saltmarsh could be reduced at this site by fencing powerline easements, which provides access to the site.

ACKNOWLEDGEMENTS

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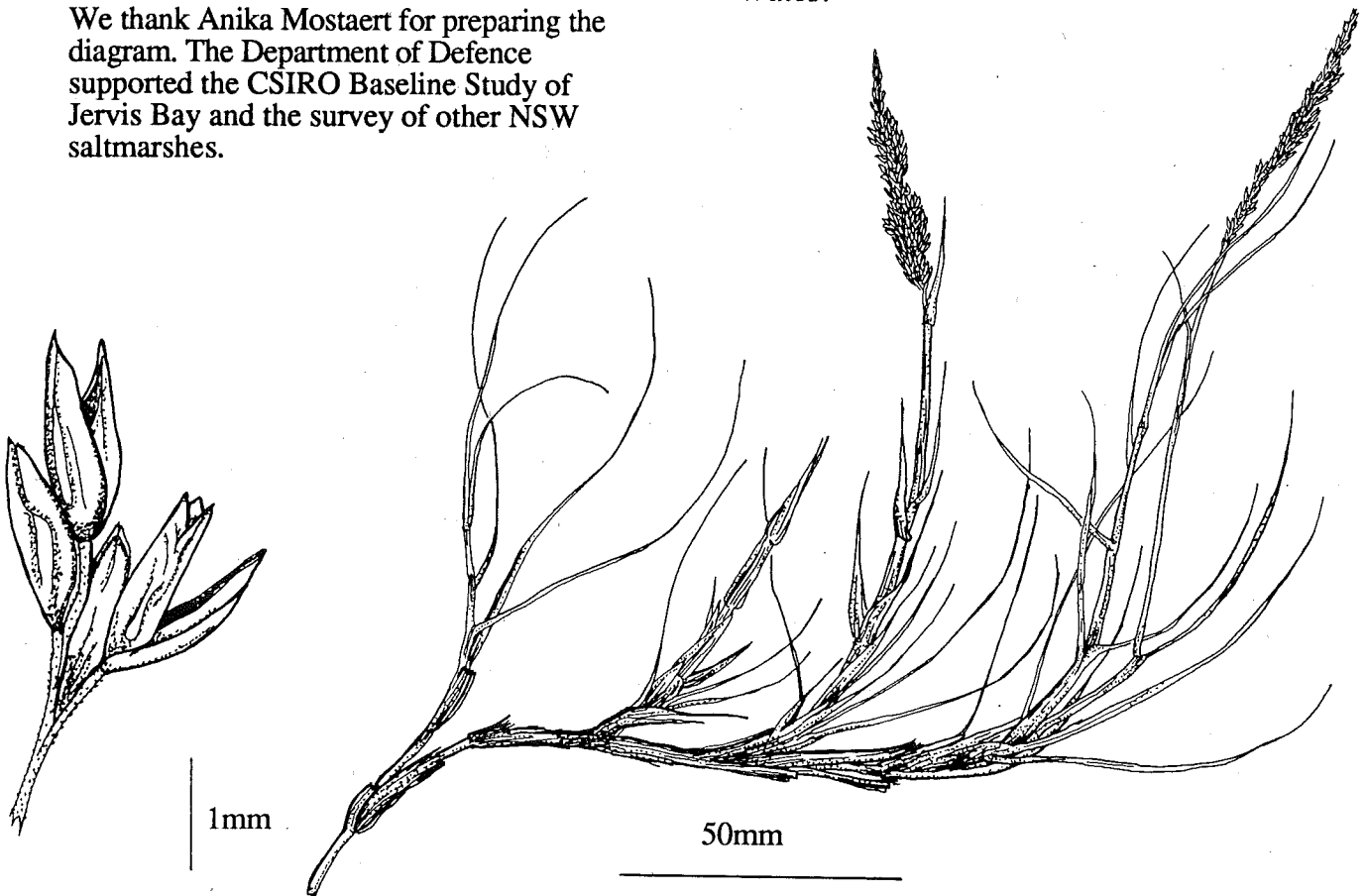


Figure 1a *Sporobolus virginicus* habit and spikelet.

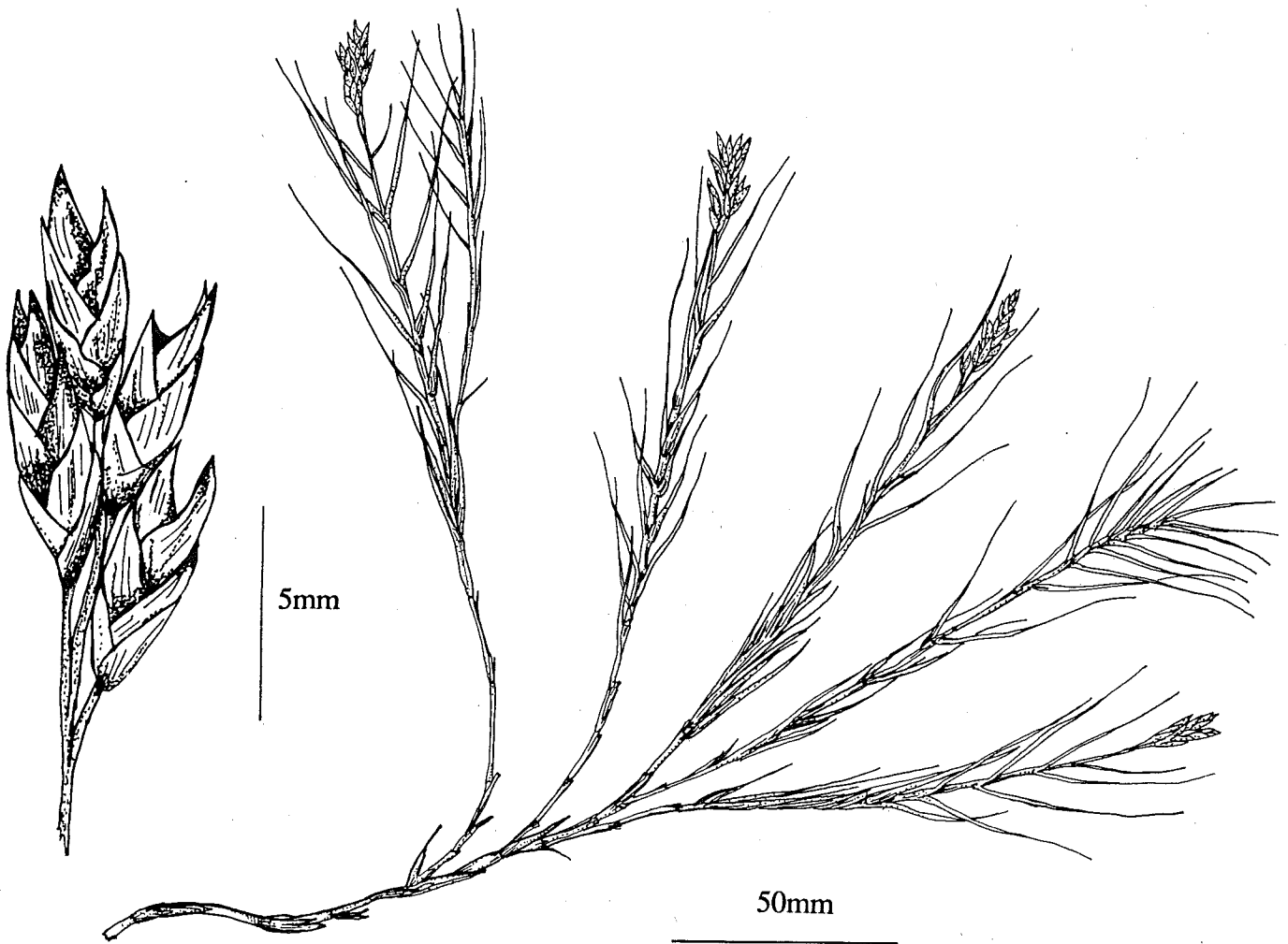


Figure 1b *Distichlis distichophylla* habit and spikelet