

#*Carex virgata*  
*Collospermum hastatum*  
*Cordyline australis*  
*Cordyline banksii*  
*Cordyline pumilio*  
#*Cyperus ustulatus* f. *ustulatus*  
*Dianella nigra*  
*Echinopogon ovatus* AK 252659  
*Freycinetia banksii*  
*Gahnia lacera*  
*Gahnia pauciflora*  
*Gahnia xanthocarpa*  
*Isolepis reticularis* AK 252663  
*Juncus greigiflorus*

*Juncus pallidus*  
*Morelotia affinis*  
*Phormium tenax*  
*Polygonum salicifolium*  
*Rhopalostylis sapida*  
#*Schoenus maschalinus*  
*Uncinia banksii*  
*Uncinia uncinata*  
  
**Orchids:**  
#*Acianthus sinclairii*  
*Bulbophyllum pygmaeum*  
*Drymoanthus adversus*  
*Earina aestivalis* AK 252662

*Microtis unifolia*  
*Thelymitra longifolia*  
*Winika cunninghamii*  
  
**Grasses:**  
#*Microlaena avenacea*  
*Oplismenus hirtellus* ssp. *imbecillis*  
  
**Adventives:**  
#*Ageratina adenophora*  
#*Araucaria heterophylla*  
*Crocasmia x crocosmiifolia*  
*Erica lusitanica* K 252661

# *Escallonia* sp.  
#*Eucalyptus* sp.  
#*Hedera helix*  
#*Hydrangea macrophylla*  
*Hypochoeris radicata*  
*Lotus pedunculatus*  
#*Oxalis* sp.  
#*Pinus radiata*  
*Paspalum dilatatum*  
*Prunella vulgaris*  
#*Symphytum officinale*  
*Veronica plebeia* AK 252660

#### References:

Cameron, E. K. 2000: An update of the distribution of *Ileostylus micrathus* in the Auckland Region. *Auckland Botanical Society Journal* 55(1): 39-44.



## Plant colonisation on drained sludge ponds at the Mangere sewage works

Mike Wilcox and Rhys Gardner

With Keith Snow of Watercare Services Ltd we inspected the drained Mangere sludge ponds on 17 March 2000 to record what plants were colonising the newly exposed sites. The ponds had been accumulating sludge for 38 years, and cover 32 ha. Draining commenced in October 1998. After the water is drained off the nitrogen-rich peat-like organic sludge, mostly derived from the bodies of dead bacteria and algae, forms a substrate for numerous plants.

The dominant colonisers are

- purple amaranth (*Amaranthus lividus*) which forms a low meadow,
- willow-weed (*Polygonum salicifolium*),
- wavy-leaved fleabane (*Conyza bonariensis*),
- black nightshade (*Solanum nigrum*).
- tomato (*Lycopersicon esculentum*) was reported to have colonised in 1998, but does not seem to be present now.

Other colonists recorded were

- Mexican tea (*Chenopodium ambrosioides*),
- broad-leaved fleabane (*Conyza albida*),
- small-flowered nightshade (*Solanum americanum*),
- Australian fireweed (*Senecio bipinnatisectus*),
- ink weed (*Phytolacca octandra*),
- purslane (*Portulaca oleracea*),
- fathen (*Chenopodium album*),
- mugwort (*Artemisia annua*),
- freshwater paspalum (*Paspalum distichum*),
- South American barnyard grass (*Echinochloa crus-gavonis*),
- pampas grass (*Cortaderia selloana*),

- smooth witchgrass (*Panicum dichotomiflorum*),
- summer grass (*Digitaria ciliaris*),
- sea aster (*Aster subulatus*), and
- purpletop (*Verbena bonariensis*).

The only common woody plants were saplings of

- Peking willow (*Salix matsudana*) and
- corkscrew willow (*S. matsudana* 'Tortuosa'), both defoliated to various degrees by willow sawfly (*Nematus oligospilus*), a new introduction, first found in Auckland 9 February 1997 (Charles *et al.* 2000).

It is likely that the willow plants are seedlings from seed blown in from horticultural shelterbelts or garden plants. There was also a young plant of a poplar hybrid).

On older sludge deposits there were a few young plants of • (*Populus deltoides* or *P. deltoides* x *P. nigra*

- brush wattle (*Paraserianthes lophantha*),
- gorse (*Ulex europaeus*),
- New Zealand ngaio (*Myoporum laetum*),
- Tasmanian ngaio (*M. insulare*) (Gardner 2000)
- taupata (*Coprosma repens*),
- native fireweed (*Senecio glomeratus*), and
- swan plant (*Gomphocarpus fruticosus*).

Botanically, the most significant find was *Artemisia annua* – the first record of this highly aromatic, fine-leaved Mediterranean mugwort in New Zealand (Gardner 2000).

#### Reference:

Charles, J. G.; Allan, D. J.; Froud, K. J.; Fung, L. E. 2000: A guide to willow sawfly (*Nematus oligospilus*) in New Zealand. [Hortnet.co.nz/publications/guides/willow-sawfly](http://hortnet.co.nz/publications/guides/willow-sawfly). 8p.

Gardner, R. 2000: More noteworthy adventives, some of them from my garden. *Auckland Botanical Society Journal* 55(2): 98-99.

