

ROTORUA BOTANICAL SOCIETY

Motuoapa Bay – Trip leader, Clive Howard–Williams

Sheltered conditions and extensive shallows make Motuoapa Bay an ideal site for aquatic macrophyte growth. The bay is only 15 m deep in the centre, so the entire bay is colonised by macrophytes.

The deepest sections (10–15 m) are covered by a tall (60 cm high) mono specific sward of *Nitella hookeri*. This extends up to ca. 6 m mixed with *Elodea canadensis*. From 3–6 m the bay is colonised by dense beds of *Lagarosiphon major*. The most interesting botanical communities are to be found in shallow water to depths of 3 m where native species abound. In recent years these have, I suspect, become modified by swan grazing and the short stature of the plants and paucity of *Potamogeton* spp. in this zone might reflect this. Common emergent aquatics on the lake edge are *Typha orientalis*, *Schoenoplectus validus* and *Eleocharis sphacelata*.

The shallows of Motuoapa Bay provide ideal sites for large numbers of aquatic animals. The common snails are the large *Limnaea stagnalis* (up to 5 cm) and the small (up to 1 cm) spiny *Potamopyrgus antipoderum*. The fresh water mussel *Hyridella menziesi* is also common. Larvae of the dragonfly (*Procorodulia grayi*) and the damselfly (*Xanthocnemis zealandica*) both 1–2 cm in length are frequently found on the vegetation as are the fresh water sponge *Ephydatia kakahuensis* and the colonial bryozoan *Plumatella* spp.. Shoals of smelt (*Retropinna retropinna*) can be seen swimming whilst the bullies (*Goblomorphus cotidianus*) generally sit close to the macrophytes. Chronomids and various worm species are also very common here but generally require some sieving techniques to separate them.

Species list for the shallow water zone

0 –2 m (depth as of February 1985 – high lake level)

<i>Chara fibrosa</i>	
<i>Chara corallina</i>	
<i>Nitella hookeri</i>	
<i>Nitella leptostochys</i>	
<i>Nitella pseudoflabellata</i>	
<i>Lilaeopsis lacustris</i>	
<i>Eleocharis pusilla</i>	
<i>Glossostigma elatinoides</i>	
<i>Ruppia polycarpa</i>	
<i>Isoetes kirkii</i>	Quillwort
<i>Drepanocladis</i> spp.	
<i>Myrophyllum triphyllum</i>	Water milfoil
<i>Myrophyllum propinquum</i>	Common water milfoil
<i>Myrophyllum pedunculatum</i>	
<i>Hypsela rivalis</i>	
* <i>Juncus bulbous</i>	Bulbous rush
<i>Ranunculus glabrifolius</i>	
<i>Ranunculus limosella</i>	
* <i>Ranunculus trichophyllus</i>	Water buttercup
<i>Potamogeton cheesemanii</i>	Red pondweed

**Lagarisiphon major*
**Elodea canadensis*
Schoenplectus validus

Oxygen weed, Lakeweed
Canadian pondweed, Oxygen weed
Lake clubrush, Kapungawha

Additional species which should be present:

Potamogeton ochreatus
**Potamogeton crispus*
Crassula sinclarii
Pilularia novae-zealandiae
Elatine gratioloides
Chara globularis

Blunt pondweed
Curled pondweed
Pillwort
Waterwort

* = exotic/adventive species

Motuoapa Swamp

The large swamp behind the beach is not well explored. Of particular interest is the recent discovery here of *Utricularia protrusa* which extends its southward distribution by a further 20 km or so (see Rotorua Botanical Society Newsletter 1984 no. 4). *Azolla rubra*, *Lemna minor* and *Ranunculus flammula* are common small aquatic species while many species of sedge and rush can be found flowering in February–March.