

C. virgata
Chiloglottis cornuta
Collospermum hastatum
Cordyline australis
Corybas cheesemanii
C. macranthus
C. trilobus
Cyperus ustulatus
Dendrobium cunninghamii
Dianella nigra
Drymoanthus adversus
Earina autumnalis
E. mucronata

Phormium tenax
Pterostylis alobula
P. banksii
P. graminea
P. "rubricaulis"
Rhopalostylis sapida
Ripogonum scandens
Typha orientalis
Uncinia banksii
U. distans
U. uncinata
U. zotovii

Vascular plants of the Onehunga Springs

R. O. Gardner

Introduction

Rainfall on the southern slopes of One Tree Hill percolates down towards the Manukau Harbour through the basaltic lava flows to emerge as springs at several places close to the pre-reclamation Onehunga shoreline. Of the five or six such wetlands that once existed two still have something of their natural condition, and though weed-infested and at first sight uninspiring, are actually of quite fair botanical value (in addition to being of interest to historians and archaeologists). The more conspicuous features of these two sites are described below, while the accompanying article in this issue, by Jessica Beaver, is on their (even more interesting) mosses.

Bycroft's Springs

This rectangular-shaped swamp is situated at the foot of Spring Street, about half a kilometre east of the Onehunga shopping centre, on the southern side of Princes Street. The swamp is fed continuously by overflow from the WaterCare Services Ltd well on the other side of Princes Street, the original spring site. Water leaves the swamp on its southern side, passing out to the harbour under reclaimed land; formerly it would have created salt-marsh in the embayment here between Galway Street on the west and Victoria Street on the east. (See the relevant "2-chain" cadastral sheet at D.O.S.L.I., which shows the original shoreline to have been located at the southern edge of the swamp). Though no plan or document has been found by me that actually says so it seems likely that this general area was known as the "Onehunga Springs", the name used by Cheeseman on collections of *Lemna minor* and *Fissidens berteroi*.

At least one local history states that this area was a "favourite watering place for the Maori", and a 1988 pamphlet marking the centenary of the Onehunga Borough Waterworks describes a Tainui canoe tradition of the spring being named "Te Puna o Hau", however I have found no evidence that this name was ever used by surveyor or settler.

The spring on the north side of Princes Street was made a Water Reserve in 1875, but even before that had furnished water for the people of Onehunga and for coastal trading vessels. In 1853 and 1856 John Bycroft bought land on the south side of Princes Street, including the swampy overflow area, and constructed a flour mill and biscuit factory here. In the 1880s the tanner William Sutherland bought the Bycroft property, valuing it of course for its generous flow of water, and since that time the property, including the swamp, has remained in the ownership of W. Sutherland & Co., whose modern tannery is sited adjacent to the west and which continues to draw water from here.

The botanical features of the swamp are shown in a general way in the accompanying Figure. The occurrence of the rare aquatic moss *Fissidens berteroi* is discussed in Jessica Beever's article (which follows). Perhaps the only other noteworthy features are the absence of old cabbage trees (*Cordyline australis*), and the fact that Cheeseman collected *Lemna* here but I can find now only *Spirodela*.

Captains Springs Reserve

This site is located almost a kilometre east of Bycroft's Springs, south of Church Street, about 500 metres inland from the original shoreline. The name refers to Captain Hautain, who arrived in New Zealand in 1849 with the last detachment of Fencibles to be settled in Onehunga, and who had a grant of land here. However the name "Captain's Springs" apparently applied not to this site (which appears on Hochstetter's 1859 map merely as "Pond") but to a spring on the shoreline at the very foot of Captain Spring's Road – see, for example "Plan of Onehunga 1855 (W. Blackburn's Survey)" held by the Auckland Public Library.

Currently the site is zoned as a recreation reserve. No lava-flow vegetation remains here today, the ground being either swamp or recent grassed reclamation (see Figure). Underground water enters the site in its north-eastern part.

1. North of the railway line.

The swamp is dominated by smallish crack willow (*Salix fragilis*) but in its central and western parts, where the willow is fairly open, is still native in character, consisting in large part of waist-high niggerheads (*Carex secta*) that are separated by channels of water and semi-liquid peat with *Spirodela punctata*. (*Lemna* seems to be absent). The niggerheads are festooned with an abundance of *Hypolepis distans* (which occurs similarly at Western Springs) and a lesser amount of *Blechnum minus*. Small crack willows perch on the niggerheads, as do bushes of *Coprosma robusta* and a few *C. macrocarpa*. *Phymatosorus diversifolius* and *Pyrrosia eleagnifolius* occur here and there at the base of the trunks of the willows. There is a square metre or so of depauperate *Scirpus fluviatilis*, one or two young cabbage trees (no old ones), a few young (trunkless) wheki (*Dicksonia squarrosa*), some tussocks of *Carex virgata* and one extensive colony of the native buttercup *Ranunculus amphitrichus*. The ferns *Pteris tremula*, *Histiopteris incisa*, *Deparia petersenii*, *Hypolepis dicksonioides*, and *Paesia scaberula* are present but infrequent. Raupo (*Typha orientalis*) is lacking. The swamp in its central-western part is too wet for almost all adventives other than crack willow – I noted only one shining privet (*Ligustrum lucidum*).

Towards the east the swamp has a close growth of crack willow to c. 7 m tall, below which are moribund *Carex secta* clumps bearing coprosma seedlings and saplings. The southern edge of the swamp has been degraded by the formation of the railway embankment, and there is a fringe of rubble and industrial materials along the western edge. These places have exotic scrub weeds such as *Ligustrum lucidum*, woolly nightshade (*Solanum mauritianum*) and Kahili ginger (*Hedychium gardnerianum*). On the northern boundary, behind the house properties on Church Road, dumping of fill and household junk is currently occurring.

2. South of the railway line.

Most of this ground has been infilled and grassed; features of interest are indicated in the Figure. It is a fairly large area, and, with memories of the noble old cricket-bat willow *Salix alba* 'Coerulea' lost a while ago from the Domain duckpond, and of the weeping willow recently lost from Gribblehurst Park, I have recommended to Auckland City Council that here might be a suitable place to plant some of the willow species found in New Zealand.

Figure 1: Location of Bycroft's Springs and Captain Springs Reserve

Onehunga Filter Station

SPRING ST

PRINCES ST

road verge & railway

Continual swift clean flow of water enters site via 2 m long concrete flume. Aquatic mosses here are: *Fissidens berteroi* (flume walls mostly) and *Amblystegium riparium* (walls & rocky bottom).

Bank of kikuyu grass, fennel, pampas grass, brush wattle.

8 m tall *Salix cinerea* over bare mud, *Carex virgata* and a few *C. secta*.

Wet ground mostly with *Polygonum salicifolium*, watercress, nasturtium, and a few *Carex ? secta*.

Tall pampas grass (*Cortaderia selloana*)

Pampas, raupo, *Scirpus lacustris*, and *Carex ? secta*.

Remains of Bycroft's dam ?

Water exits here.

approx. cadastral boundary of swamp, waste ground to east

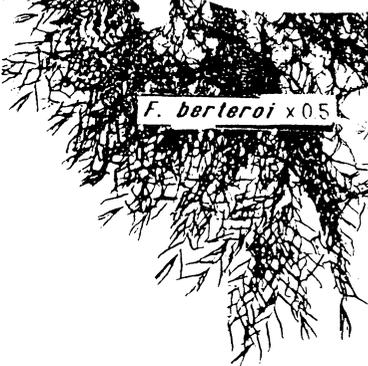
N



Not drawn to scale
Princes St frontage is c. 50 m long

Bycroft's Springs

ROG '94



W. Sutherland & Co. tannery

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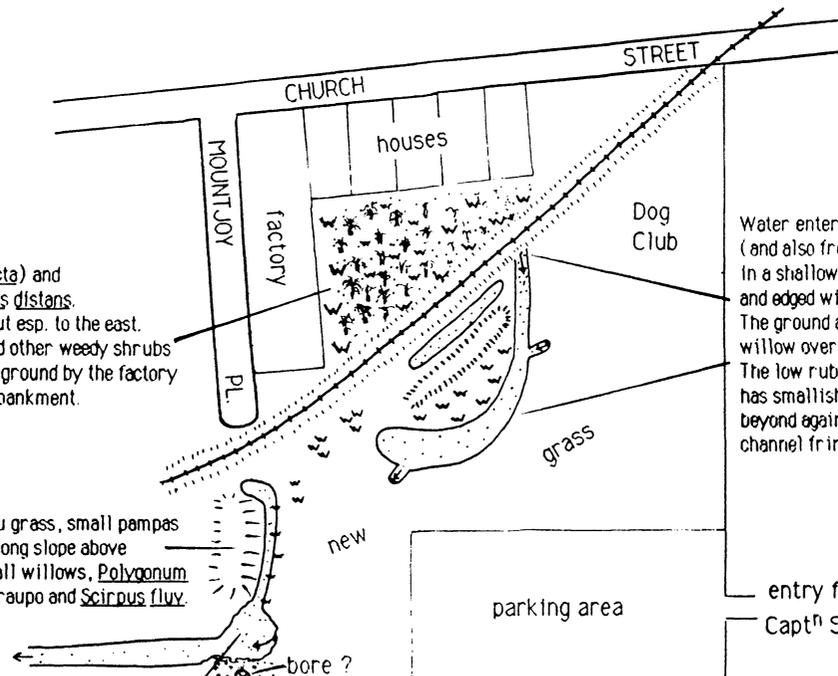


Not drawn to scale.
Railway is c. 200 m long.

Swamp with niggerheads (*Carex secta*) and many perching ferns, esp. *Hypolepis distans*. Crack willow (✱) occurs throughout esp. to the east. This sp., shining privet, ginger, and other weedy shrubs and climbers dominate along messy ground by the factory and along the foot of the railway embankment.

Dry basalt-gravel bank with kikuyu grass, small pampas grass and gorse, and brush wattle along slope above a backwater channel, which has small willows, *Polygonum salicifolium*, *Paspalum distichum*, raupo and *Scirpus fluv.*

Pond surrounded by kikuyu grass and other weeds; on south side an area of brush wattle and some natives on pond edge incl. niggerheads and *Juncus* spp. Water exits in a broad rectangular channel fringed mostly by brush wattle and weeds.



Water enters swiftly from under railway (and also from side drain) and spreads out in a shallow channel bearing *Spirodela* and edged with *Callitriche stagnalis*. The ground above has medium-sized crack willow over pampas grass, privet, etc. The low rubble embankment beyond has smallish brush wattle on its edges, beyond against the railway is a rectangular channel fringed with small crack willow.

Te Papapa Bowling Club

Captain Springs Reserve

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