Thelypteris confluens - an addition to the Waitakeres

E.K. Cameron and R.M. Bellingham

In February 1998 one of us (RMB) discovered a single clump of swamp fern (*Thelypteris confluens*) in the Waitakere (Te Henga) Wetland (herbarium voucher: AK 235196). It was growing amongst 80 cm tall swamp millet (*Isachne globosa*) and sparse raupo (*Typha orientalis*).

Swamp fern is widely distributed in the Old World tropics and subtropics (Brownsey & Smith-Dobsworth 1989) and in New Zealand it is found in swamps from Northland to the Bay of Plenty. It is listed by Cameron et al. (1995) as a nationally threatened species at the rank of "Rare". Previously from the Auckland region there appears to have been only a single collection: from northern Woodhill, collected by Bruce Burns in 1983 (AKU 15136) (see Cameron & Bellingham 1986). It has not been seen there since but it is likely to still be present.

The Waitakere Wetland is one of the largest (80 ha) and most important of the Auckland wetlands. The dense vegetation we see there today is the result of intensive milling of the catchment (1925-26) followed by massive siltation (Cameron et al. 1997: 154). Therefore, with the changing swamp vegetation, swamp fern may be a relatively recent arrival and is possibly limited to this single site. On the other hand this extensive wetland has not often been searched by botanists and other populations of this fern are likely to be present. Suitable habitat appears to cover some 40 hectares. The closest known population of swamp fern to the Waitakere Wetland is at northern Woodhill, some 50 km away. Slightly further to the north (67 km), on the Pouto Peninsula are several populations of swamp fern by the north Kaipara dune lakes. At one of these sites it was recorded as abundant in 1991 (herbarium voucher: *Wright 11610*, AK).

With the freshwater dune lakes now a permanent feature at Whatipu (southern Waitakeres), these extensive wetlands maybe the next Auckland locality for swamp fern to establish in? Good hunting.

References

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Schoenus carsei and *Tetraria capillaris*

Rhys Gardner

The former of these tussocky long-culmed swamp sedges is generally regarded as an uncommon plant in New Zealand (it also occurs in Australia). Originally described by Cheeseman from specimens found at Whangarei, Papatoetoe, between the Manakau Harbour and the Waikato River, and Taranaki, it appears to be most frequent in the Waikato restiad and sedge wetlands, but even here it is only locally abundant, e.g., AK collections by Peter de Lange from the Reao of the Whangamarino Swamp say "rather uncommon" and "prolific along wet seepages within *Baumea huttonii*", while another from the Opuatia wetland says "locally common here, but appears tp be a very uncommon species in the [Waikato basin]". The only other recent AK collections come from the Hinehopu Swamp at the east end of Lake Rotoiti, where Ewen Cameron found it to be "locally common ... associated with *Schoenus brevifolius* and *Tetraria capillaris*", and from Ruawai, where Lisa Forester found it in the kahikatea forest.

See Fig. 1, opposite

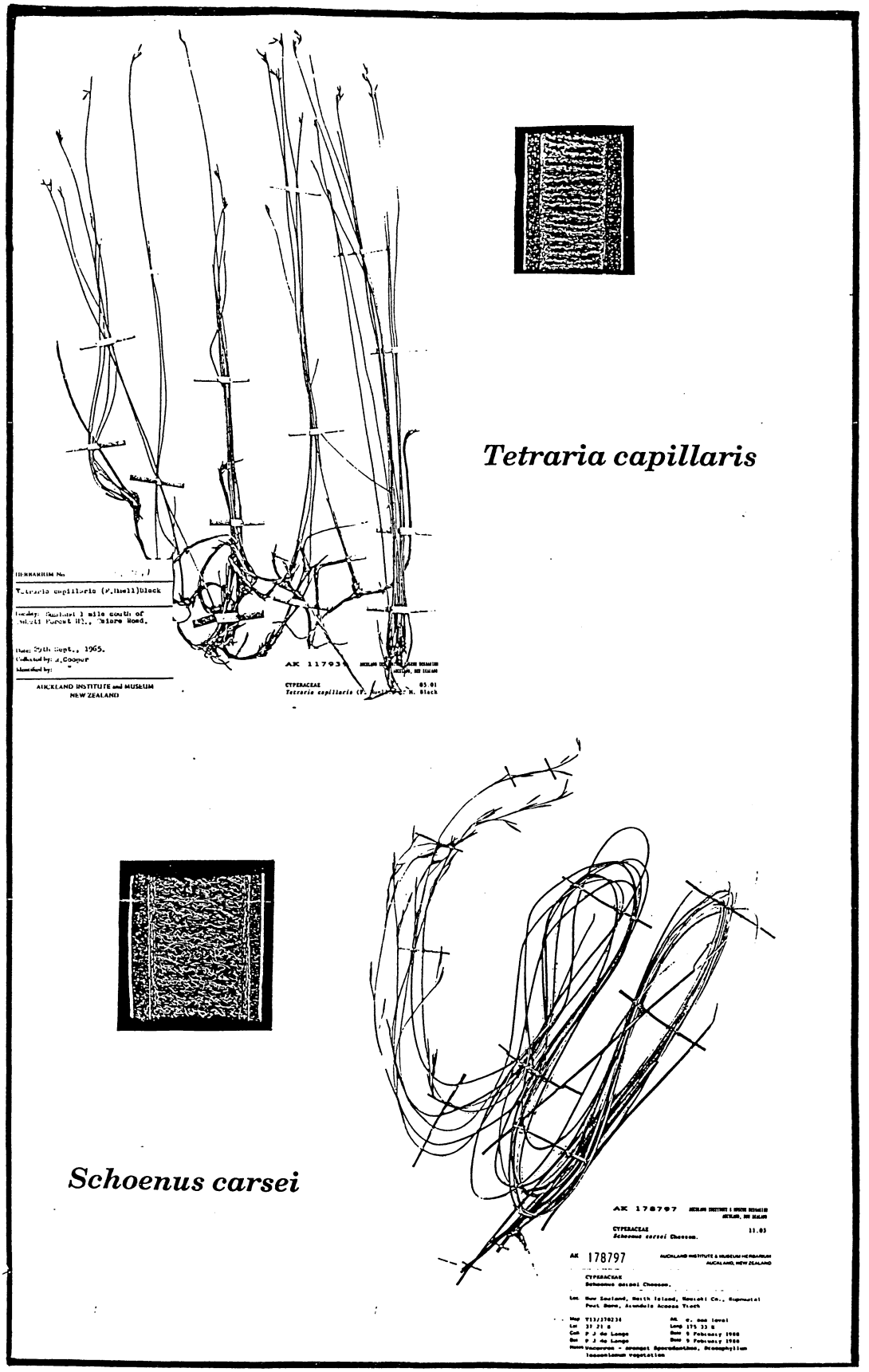

Fig. 1: ***Tetraria capillaris, Schoenus carsei*** **specimens, and l.s. culms (x 30).**

Consequently, there was some excitement on learning that *Schoenus* collections come from the Hinehopu Swamp at the east end of Lake Rotoiti, where Ewen Cameron found it to be "locally common ... associated with *Schoenus brevifolius* and *Tetraria capillaris*", and from Ruawai, where Lisa Forester found it in the kahikatea forest.*carsei* had been sighted in the manuka scrub on the northern side of the mouth of the

Puhinui Creek on the Manakau Harbour. But the only AK specimens from here are AK 220742 and a recent one of my own: both are *Tetraria capillaris*. Consequently, the record for *S. carsei* is probably best disregarded, especially since the author of it has written to me to say, modestly, that he would not know the species from a bar of soap.

Tetraria capillaris is not particularly common itself around Auckland, having been decimated over recent years in its habitats around the upper Waitemata Harbour. It is unlikely ever to reach the "official" locally-rare status that *Schoenus carsei* has; some day though it may be worth making a fuss over, and the question remains: having learnt to distinguish them from a bar of soap, what is the best way of telling them apart, particularly of course, if one has "unfortunately" plucked only a wisp or two. Nor does one want to confuse them with the rather more common *Baumea tenax.*

It is possible to tell even sterile "parka pocket" fragments of these three species, using just a razor-blade, good ruler, and a x 10 lens, as follows:

Culms at c. ½ way up usually less than 0.8 mm diam., pith distinctly septate; mucro of basal sheaths usually projecting less than 5 mm beyond sheath apex, minutely setose on the basal margins ..... *Tetraria capillaris*

Culms at c. ½ way up usually 0.8 – 1 mm diam., pith continuous (but liable to compress or break down under the blade in *S. carsei.*); mucro of basal sheaths glabrous. Pith of culms uniformly pale-parenchymatous; mucro sometimes several cm long
..... *Schoenus carsei*

Pith of culms longitudinally traversed by denser plates of living tissue, in longitudinal section, then pale but with one or more darker streaks or lines; mucro rarely exceeding sheath apex by more than 2 mm ..... *Baumea tenax*

Paspalum orbiculare - an adventive addition to the Waitakeres?

E. K. Cameron

On 2 May 1998 G.A. Taylor and I discovered ditch millet (*Paspalum orbiculare*) (previously referred to as *P. scrobiculatum* in New Zealand which is now recognised as a separate Asian species and is unrecorded for New Zealand), on the Cornwallis Peninsula while tramping out to the end of the peninsula to search for grey-faced petrels. Herbarium voucher: AK 235228. I initially thought it was a new record for the Waitakere Ecological District (cf. Gardner 1982). Checking with the WELT herbarium revealed it had been collected at least once before in the Waitakeres by M. Southerland on 17 January 1937 (WELT 69249).

Ditch millet was locally common along the margin of the bulldozed Monument Track, from near the carpark (at the end of Cornwallis Road) nearly up as far as the monument (map Q11 530637, 80 m asl). It was growing by a clay drain amongst paspalum (*P. dilatatum*), ratstail (*Sporobolus africanus*), carpet grass (*Axonopus affinis*) and the occasional clump of Vasey grass (*P. urvillei*). The track goes through a native scrubland with pines (*Pinus* spp.). Along the bush margin, gorse (*Ulex europaeus*), climbing asparagus (*Asparagus scandens*) and mist flower (*Ageratina riparia*) were locally common, and bone-seed (*Chrysanthemoides monilifera*) was local. Ditch millet formed erect tussocks, up to 1 m tall. The leaves were flat and wide (up to 11 mm), the adaxial leaf blade surface was glaucous and the abaxial face was bright shiny green. Of the eight paspalum species recorded in New Zealand, ditch millet is the only one now considered to be indigenous (Edgar & Shand 1987).

Ditch millet is widespread in the Pacific and in Australia. Based on the specimens in AK (47 sheets), AKU (20), CHR (c.20) and WELT (c.10) herbaria, ditch millet occurs in New Zealand from Raoul Island in the Kermadec Islands (*T. Cheeseman*, 1887, AK 1273) south to: Poverty Bay [*T.W. Kirk s.n.*, (1900-1936?), CHR 5788]; and in the Bay of Plenty: Tauranga (*D. Petrie*, 1877, WELT 69248) and Whale Island (*B. Parris*, 1970, AK 126762)