BioBlitz 2015: Pourewa Reserve and Kepa Bush, Auckland – Mosses

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Kepa Bush

For a general introduction to the area and to the event see Cameron (2015). The diversity of mosses (Table 1) seen in Kepa Bush (Cameron 2015: Fig. 1) at the time of BioBlitz (27, 28 March 2015) was a pleasant surprise, with 43 species in 23 families recorded, 39 of them being indigenous. A survey of specimens held in Herbarium AK provided an additional nine species from "Purewa", all indigenous. Collectors of these were T.F. Cheeseman (in 1871 and 1872) and M.R. Idoine (in 1979). It is likely that these specimens were collected in the area now reserved as "Kepa Bush".

The BioBlitz tally for Kepa Bush included many species characteristic of the native forests of northern New Zealand. Of particular note was the abundance of the ground-dwelling *Echinodium hispidum*, a robust, dark-green moss with long fine leaves – hence the allusion to "hairiness" in the species name. One relatively uncommon species was found, *Fissidens oblongifolius,* which is known in New Zealand only in the north, from the Kermadec Is to as far south as Rangitoto I. in the inner Hauraki Gulf. Kepa Bush now becomes the southernmost known site of this moss, classified as "Naturally Uncommon" (Glenny et al. 2011). Of the introduced species only one, *Fissidens taxifolius*, is regarded as an invasive weed. The earliest known New Zealand record of this European moss is from the Auckland Domain in 1944. It was collected in Pourewa Bush in 1979 (AK 313830) and was found to be abundant on track-sides and stream-sides in Kepa Bush at the BioBlitz. The species is widespread in Auckland City, and is known as far south as Dunedin. Although only female plants have been found in New Zealand (so no sexual reproduction takes place), this moss would be easily propagated vegetatively by means of its very small subterranean tubers, as well as from shoot fragments. We have no suggestions as to how its spread can now be realistically curtailed. Of the indigenous mosses in Kepa Bush, c. eight were growing as epiphytes on the bark of trees or shrubs. These included the minute *Tetraphidopsis pusilla*, bearing vegetative propagules on its shoot tips.

Pourewa Recreational Reserve

The moss diversity found in the Pourewa Recreational Reserve (Cameron fig. 1; Table 1) was much less than that of Kepa Bush, as expected of this highly modified habitat. Eight species were recorded, of which only half were indigenous. Three species that were not recorded in the adjacent Kepa Bush were found here, all three light-demanding, namely *Philonotis tenuis*, *Tortula truncata* and *Pseudoscleropodium purum.* The last of these is a potentially invasive weed, but, being light-demanding, it is unlikely to invade beneath the closed canopy of Kepa Bush.

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References

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Table 1. Moss lists for Pourewa Reserve and Kepa Bush

Based on observations by JE Beever and AJ Fife, with additional taxa from holdings in AK. Moss names follow updated versions of the Mosses of New Zealand (Fife 1995). These may be obtained on request from Allan Fife at Manaaki Whenua Landcare Research (FifeA@landcareresearch.co.nz). In addition, the eFlora of New Zealand Mosses is being progressively published on line, family by family, and pdfs may be found at: http://www.nzflora.info/publications.html

* = adventive species; E = amongst entrance plantings only

Family	Taxon	Year of any previous collections	Pourewa Reserve 2015	Kepa Bush 2015	Herbarium vouchers
AMBLYSTEGIACEAE	*Calliergonella cuspidata* *			E	
BARTRAMIACEAE	*Philonotis tenuis*		+		
BRACHYTHECIACEAE	*Brachythecium albicans* *			E	
	Eurhynchium asperipes		+	E	
	Eurhynchium praelongum *		+	+	
	Pseudoscleropodium purum *		+		
	Rhynchostegium tenuifolium			+	
BRYACEAE	*Bryum billardierei* var. *platyloma*			+	
	Bryum dichotomum Hedw.		+	+	
CALOMNIACEAE	*Calomnion complanatum*			+	
DALTONIACEAE	*Calyptrochaeta brownii*			+	
	Distichophyllum microcarpum	1979		+	AK 324321
	Distichophyllum pulchellum var. *pulchellum*	1872			AK 12246
	Distichophyllum rotundifolium	1871			AK 12243
DICRANACEAE	*Campylopus introflexus*			+	
	Campylopus pyriformis	1979		+	AK 327038
	Dicranoloma billardierei			+	
	Dicranoloma menziesii	1979			AK 324879
ECHINODIACEAE	*Echinodium hispidum*	1979		+	AK 313833
FISSIDENTACEAE	*Fissidens asplenioides*			+	
	Fissidens oblongifolius			+	AK 357772
	Fissidens curvatus var. *curvatus* ? *			+	
	Fissidens leptocladus	1979		+	AK 313829
	Fissidens taxifolius *	1979	+	+	AK 313830
	Fissidens taylorii var. *taylorii*			+	
	Fissidens tenellus var. *tenellus*	1979			AK 313831-32
FUNARIACEAE	*Funaria hygrometrica*			E	
HOOKERIACEAE	*Achrophyllum dentatum*			+	
	Achrophyllum quadrifarium			+	
HYPNACEAE	*Hypnum chrysogaster*	1979			AK 324881-82
	Hypnum cupressiforme var. *cupressiforme*			+	
HYPNODENDRACEAE	*Hypnodendron arcuatum*	1979		+	AK 324880
	Mniodendron colensoi			+	
HYPOPTERYGIACEAE	*Hypopterygium rotulatum* s.l.			+	
LEMBOPHYLLACEAE	*Camptochaete pulvinata*			+	
	Camptochaete ?arbuscula l?deflexa			+	
LEPTOSTOMATACEAE	*Leptostomum inclinans*			+	

LEUCOBRYACEAE	*Leucobryum javense*			+	
NECKERACEAE	*Pendulothecium punctatum*			+	
ORTHOTRICHACEAE	*Macrocoma tenue*	1871		+	AK 10959
	Macromitrium gracile			+	
	Macromitrium prorepens	1979		+	AK 318287
	Zygodon ?menziesii			+	
POTTIACEAE	*Syntrichia papillosa*			+	
	Tortula truncata *		+		
	Trichostomum ?sciophilum		+	+	
	Weissia controversa var. *gymnostoma*	1979			AK 324884
PTYCHOMNIACEAE	*Ptychomnion aciculare*	1979		+	AK 324323
	Tetraphidopsis pusilla			+	
RACOPILACEAE	*Racopilum robustum*	1979			AK 359808
	Racopilum strumiferum	1979		+	AK 324318
RHIZOGONIACEAE	*Hymenodon pilifer*	1979			AK 324883
SEMATOPHYLLACEAE	*Rhaphidorrhynchium amoenum*	1979		+	AK 324322
THUIDIACEAE	*Thuidiopsis furfurosa*	1979			AK 324320
	Thuidiopsis sparsa			+	
TOTALS:	Both sites collectively: **46**		**8**	**43**	

BioBlitz 2015: List of liverworts from Kepa Bush, Auckland

J. E. Braggins

The list of 26 liverwort species (see Table) is based on collections from 1979 by M.R. Idoine, and 2015 by JEB, P. de Lange, D. Blanchon and J. Salter collections. For a general introduction to the area and to the event see Cameron (2015).

There seem to be two cohorts of species in the collections. The main group are species on bark or soil, mostly bark, from relatively dry sites e.g. the species of *Frullania*, *Metzgeria furcata*, and Lejeuneaceae. The other group are associated with damper habitats notably *Trichocolea*, *Plagiochila*, *Symphyogyna*, etc.

Metzgeria furcata is perhaps the commonest liverwort in the reserve, clothing many tree trunks in the upper part of the reserve, and even on old tyres in the privet 'forest' between the paddock and the estuary (Figs. 1 & 2). The tiny species in the Lejeuneaceae are not uncommon but are difficult to locate and tend to be under represented in collections. On the basis of knowledge of other local areas, further collecting should reveal more species as the collecting efforts during BioBlitz were unfortunately restricted by personal circumstances.

In general, the collections reflect habitats that often dry out and the species are mostly fairly common in the Auckland area. Perhaps the most unusual find is the *Trichocolea hatcheri* which is not a particularly common liverwort. The large *Plagiochila obscura* present here is also present at Dingle Dell (Wilcox et al. 2013) as well as being common on Rangitoto Island (Braggins 2007) .