

Astelia trinervia
Carex dissita
Collosporum hastatum
Cordyline australis
Cordyline banksii
Dianella nigra
Freycinetia banksii
Gahnia lacera
Gahnia pauciflora
Gahnia xanthocarpa
Lepidosperma laterale
Libertia grandiflora
Morelotia affinis
Phormium cookianum
Phormium tenax
Rhopalostylis sapida
Ripogonum scandens
Schoenus maschalinus [ABS]
Schoenus tendo

Uncinia banksii
Uncinia uncinata

GRASSES

Microlaena avenacea
Oplismenus imbecillis

ORCHIDS

Acianthus sinclairii
(A. fornicatus var. *sinclairii)*
Bulbophyllum pygmaeum
Corybas macranthus
Dendrobium cunninghamii
Earina autumnalis
Earina mucronata
Pterostylis alobula
Pterostylis cardiostigma
Pterostylis graminea
Pterostylis trullifolia

Distribution of beech in the Waitakere Ranges

E.K. Cameron

Hard beech (*Nothofagus truncata*) is locally common in the Auckland Region, e.g. Little Barrier Island; Kawau, Ponui and Waiheke Islands; North Shore, Paremoremo, Albany - Warkworth, Mangawhai; and east and southern Hunua Ranges and Mount William. In the Waitakere Ranges, "a small stand of *Nothofagus truncata* at Titirangi" (Mead 1969:2) is what most people are aware of. This refers to the trees below Konini Road (Site 2) (Mead 1959). More recently a remote small stand of hard beech on the margin of the upper Whatipu Stream has become better known (Site 1) (Wood 1976). When compiling this article I have become aware of another site west of the Konini Road trees (Site 4). This is possibly (depending on how many remain) the most extensive stand of hard beech remaining in the Ranges. See map (Fig. 1) for the site locations.

* Site 1: Upper Whatipu Stream margin, 4 healthy trees, Auckland Centennial Memorial Park. Map reference 260 Q11 457639 150 m asl. See Table 1 for the size and growth rates of these trees. I.T. Pickens (pers. comm.) collected material from this stand in the mid 1950's for his botany herbarium project at Auckland University. In 1976, Bill Beveridge took Katie Wood and others to visit these trees after he came across them in 1974 (Wood 1976). Brenda May vouchered the first herbarium specimens in August 1976 (AK 216565 ex Herbarium A E Esler) and Katie Wood collected more in October 1976 (AK 140567, 216564). Bot Soc visited this stand on 21 October 1989 and 16 August 1997 (Cameron 1997).

* Site 2: Gully between upper Konini and Tawini Roads. A.D. Mead (1959) recorded small groups of hard beech between these two roads of 6-20 trees each in secondary bush. Two of the groups were part of a subdivision reserve (now Centennial Memorial Park land) and the others were on private land. Seedlings were very rare. McDonald (1984) recorded 10 trees (including two dead) in the upper part of the valley (450 m down Konini Road from the Scenic Drive, map R11 565730 120-140 m asl) and 20 trees (including 4 dead) in the lower part (towards Konini School, map R11 564733 100 m asl) in June 1983. He recorded the diameter, health and tagged the individual trees.

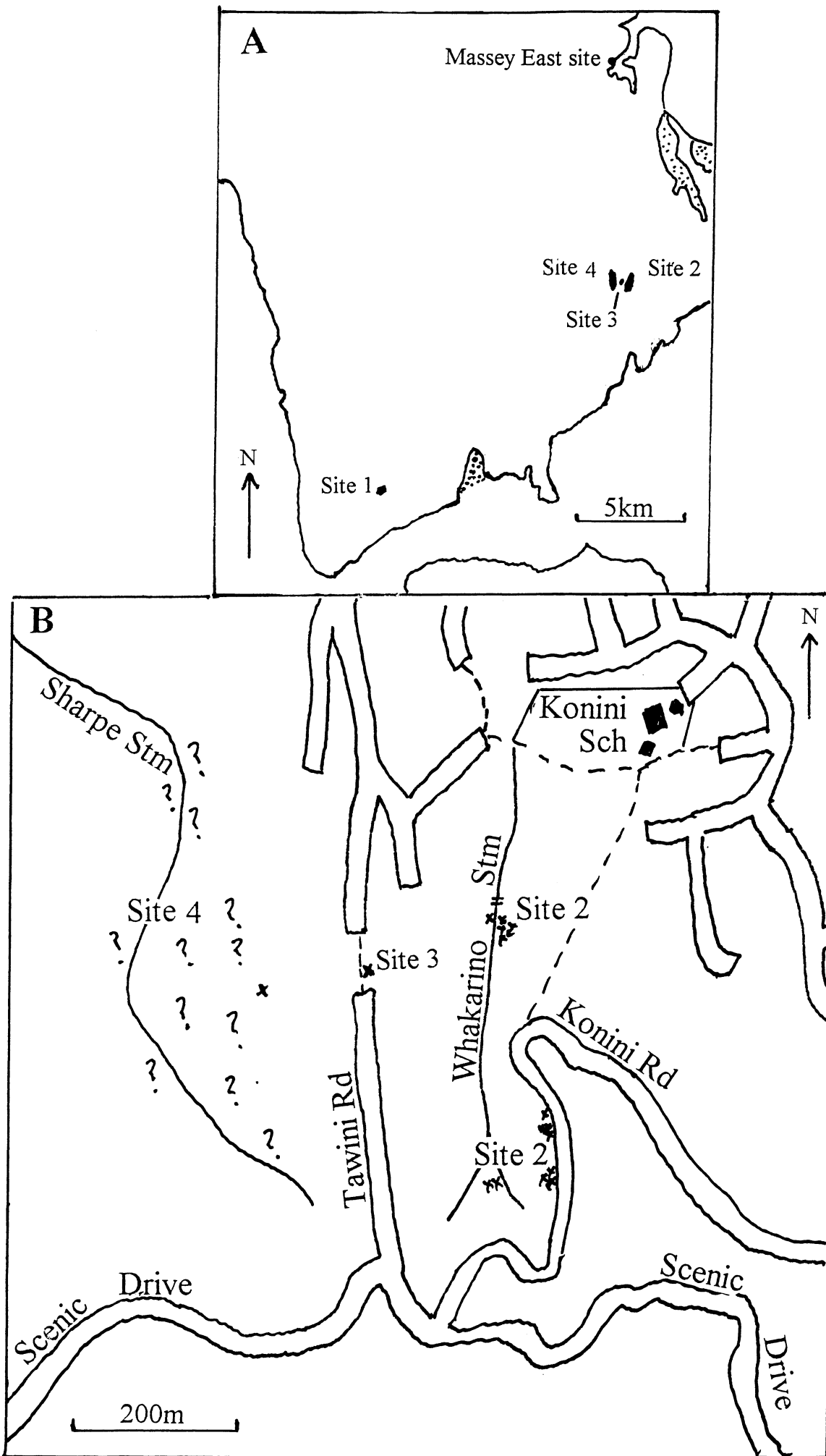


Fig 1. A: Natural hard beech sites in west Auckland, B: Enlargement of sites 2 - 4 (see text for site details).

The upper stand in 1983 consisted of 7 trees (1 dead) just below the green transformer on the side of the road (on private land) and 3 trees (1 dead) in the valley below (probably in Centennial Park). The diameters ranged from 61.0 cm to 12.8 cm dbh (MacDonald 1984). I did not visit this group.

A little further down Konini Road (600 m from the top), opposite no. 246, is a small stand of medium-sized beech (on private land), adjacent to the road by a white railing (map R11 565731 120 m asl). Some 6 trees are on the south side of a tar-sealed bank and at least 1 on the north side. I viewed these trees from the road.

MacDonald's lower stand was looked at by Harry Beachman and myself on 27 Oct 1997 (Centennial Park outlier). Just above a small waterfall we found only 15 beech trees, of which 2 were recently dead. A single tree was on the west side of the Whakarino Stream and the others were on the east side, less than 40 m separated the stand. The tallest were c.18 m tall, dbh: 41.4 (west side), 47.5, 39.2, 29.7, 28.4, 27.8, 27.1 + 21.9 (2 trunks), 25.0, 24.5 (dead), 22.6, 22.1 (dead), 22.0, 20.1 at 70 cm, 18.9, and 10.6 cm (I did not see MacDonald's tags). In 1983 the diameters ranged from 42.1 to 10.3 cm dbh (MacDonald 1984). The stand was largely kanuka and hard beech with kauri, tanekaha and mamangi. The apparent loss of 3 living trees over 14 years in such a dense stand is probably due to natural thinning and competition with other species. Only one beech seedling was seen. It is a very attractive stand in the valley bottom with abundant regeneration of trees other than beech. The ridges are scrubby with manuka, kanuka, gorse and wattles. Phyllis Hynes and Arthur Mead collected voucher specimens from here in 1971 (AK 129311-12). There are probably other beeches in this valley as the area was not extensively searched by myself or Colin MacDonald (pers. comm.). See accompanying map (Fig.1,B).

* Site 3: Ridge between sites 2 and 4, less than 100 m north below the end of Tawini Road, east side of track (Shetland Track), overhanging track. Single tree 57.9 cm dbh c.12 m tall amongst regenerating kauri and tanekaha (4 Oct 1997). Map Q11 563733 140 m asl.

* Site 4: West of Tawini Road by Sharpe Stream. Private land (La Rosa) c.73 ha. Map reference 260 R11 561730 - 561734 80-150 m asl. A.D. Mead (1959) recorded scattered beech here, larger trees than the adjacent site (Site 2). The largest measured 80.76 cm diameter. Several had recently died from unknown causes and seedlings were very rare. In the 1960's there were more than 150 hard beech trees on the eastern side of this property, especially near the stream (I.T. Pickens and J.A. Rattenbury pers. comm.). In the early 1970's parts of this forested property were cleared for cattle grazing. Karen Denyer (file note to Auckland Regional Council) at this location (map R11 561733) recorded a couple of large beech trees and several saplings in secondary kauri forest in 1994. I was refused permission to go onto the property in September 1997 to see how many beech trees are now present. When viewed from the Scenic Drive it appears much of this part of the bush remains although cattle have access to parts of the bush.

Discussion

Because beech lacks a good means of dispersal, except by streams, the presence of beech trees should indicate where it grew in the past. The main Waitakere beech appears to have been limited to the north-facing slopes, west of Titirangi (Sites 2 - 4). The small Whatipu outlier (Site 1) 14 km south-west of the main beech stand is a mystery as to how it would have reached there. A freak dispersal by a bird or a human, or a remnant from an earlier more widespread distribution?

Most of the Waitakeres has been heavily logged and therefore hard beech may have been more widespread in the past. For example the presence of large beech tree stumps by the old Bullock Track off the end of Tawini Road (between Sites 2 & 4) was reported to Bill Beveridge (pers. comm.) many years ago. All the known Waitakere beech is secondary - post European.

The closest beech to the Waitakere sites is at Massey East - Lucy Cranwell (1981:110) records the presence of a tree or two of hard beech "on a bank near the north of the Henderson Creek." Karen Denyer (pers. comm.) in the same area (Massey East) found one mature hard beech tree (20 m tall) and several seedlings (<1 m tall) amongst kauri regeneration on a steep slope in 1994 (map reference 260 R11 558835). Sites 2 & 4 drain into the Henderson Creek, so beech may once have grown at suitable habitats along this 11 km route.

It would be good to know the amount of beech on the La Rosa property as it was not surveyed during the Waitakere PNA survey, 1989 - 1991 (S.T. King pers. comm.). It is possibly still the stronghold for hard beech west of the Waitemata Harbour and it appears to have the largest beech tree for this area.

Planted beech in the Waitakere Ranges

1. Red beech (*N. fusca*) - Waiatarua, 445 Scenic Drive (visible from Scenic Drive), 25 m up from West Coast Road. A single tree 43.5 cm dbh, c. 12 m tall (4 Oct 1997); amongst other regenerating native bush on east side of driveway. Map reference 260 Q11 510731 300 m asl, voucher AK 234105.
2. Silver beech (*N. menziesii*) - Otimai Camp, Kauri Loop Road by West Coast Road, about 70 m east of main camp building. A single tree, 34.9 cm dbh, c. 14 m tall, (19 Oct 1997); track margin in tall regenerating forest of kanuka, tanekaha, rimu and kauri. Evidently it was a gift of appreciation sent up from the South Island by a Girl Guide group which stayed at Otimai in 1924 (W.J. Beveridge pers. comm.). The date appears too early as the camp only opened in 1928. Map reference Q11 533743 c. 80 m asl.
3. Silver beech - Walker Kauri Track, c. 85 m in from Mountain Road, 5 m in from track, south side. A single tree, trunk branched in two 0.5 m up from ground: 24.3 + 23.8 cm dbh, c. 11 m tall (19 Oct 1997); regenerating forest. Map Q11 495764 c. 160 m asl, voucher AKU 20194.
4. Silver beech - Waiatarua, Rose Hellaby House grounds. 3 trees: multi-trunked, 2 main stems: 16.1 + 22.3 cm diam at 1.0 m, c. 8 m tall (by gate north side); 55.5 cm diam at 0.4 m, then divides into three stems, c.11 m tall (on north side of path); single stem at 1.0 m, then four stems: 45.3 + 32.6 + 32.3 + 7.5 cm dbh, c.11 m tall (just east of second tree) (4 Oct 1997). Regenerating forest. Map Q11 501738 c.370 m asl.
5. Hard beech - by Old Coach Track, above intersection with driveway to Goodfellow House from Mountain Road. 3 trees: 51.5 cm, 32.1 cm, 23.8 cm dbh, up to 10 m tall (27 Oct 1997); in a line within 4 m of each other, regenerating forest. Map Q11 487758 c.200 m asl. I believe these trees are planted because they are right on the driveway margin, only 40 m away from the house, and other trees are planted adjacent to the beech. e.g., makamaka, hydrangea and possibly kawaka.

No doubt there are many other planted beech trees in the Waitakeres, especially on private land. Bill Beveridge (pers. comm.) also informed me of several other beech trees (species unknown) that he planted: one survives where he used to live, opposite the Arataki Information Centre and another at Waiatarua at the back of the old Water Works place by a holly tree. Because hard beech is the only beech natural to the ranges I recommend that any planted trees of this species be removed to avoid confusion regarding natural distributions and also possible genetic pollution with natural populations.

Table 1. Whatipu hard beech trees and seedlings 1976-1997

August 1976	October 1976	March 1983	August 1997	
(a) Trees				
Height (m) [From AK 216565]*	Diameter (cm) [AK 104567, 216564]	Diameter (cm)+ [MacDonald 1984]	Diameter (cm)+ [Cameron 1997]	Average diameter increase (cm/yr) from 1976 to 1997
21.0	50.9	54.1	61.5	0.50
15.0	30.7	34.2	39.0	0.40
21.0	23.6	24.6	27.6	0.19
10.5	8.1	9.7	16.1	0.38
(b) Seedlings				
Height (cm)	Height (cm)	Height (cm)	Height (cm)	
30	30	125	(not searched for)	-
	4	40		
		20		
		10		
		8		
		4		

* Diameter figures also recorded but not used here because they were all larger than the October 1976 figures and 2 were even larger than the 1983 figures.

+ Diameter at breast height (dbh).

I would be interested in receiving additional records of beech in the Waitakere Ranges.

Acknowledgements

I thank Harry Beachman, Bill Beveridge, Karen Denyer, Stephen King, Colin MacDonald, Shona Myers (ARC), Ivan Pickens and Jack Rattenbury for information supplied, and Harry Beachman for showing me some of the trees.

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Wairoa Valley Field Trip, 20 September 1997

Steve McCraith

A group of 28 BOTSOCers turned out in South Auckland on a beautiful spring morning for the monthly botanical foray. Headed by their leader for the day (myself) the group, some still bleary-eyed, set off from the township of Hunua at 9.45 am down Hunua Road to the Wairoa catchment valley on Moumoukai Road. After parking (off Otau Road), observing the remnants of a local pastime (a burnt out car), hearing a quick introduction to the area and receiving a short (and soon