

Mosses of Tapu Bush and Pretty Bush, Kaipara North Head

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During the Botanical Society trip of 21-25 May to Pouto, on the North Head of the Kaipara Harbour, surveys of mosses were carried out in two forest remnants: Tapu Bush, which has an area of approximately 33 ha and is located at 36° 19' S 174° 04' E, and the much smaller Pretty Bush, located at 36° 23' S 174° 08' E. Both forests are mature, mixed broadleaf forest with occasional totara, and are situated on stabilised sand-dunes. They provide striking contrast to the surrounding vegetation, a mixture of pine plantations, farm forestry, and semi-stable dunes, much of it planted in marram grass. One edge of Pretty Bush is currently being invaded by shifting dune, and the survival of this forest fragment is thus in jeopardy. Modified forest dominated by kanuka is associated with both pieces of bush, and some patches of semi-stable dune skirting the forest were also surveyed for mosses. A total of one and a half days were spent in Tapu Bush, and half a day in Pretty Bush.

Although the soils are sandy, they must remain moist for long periods, as ground mosses were common. Achrophyllum dentatum, Racopilum convolutaceum, Tortella knightii, Rhynchostegium tenuifolium and Fissidens pungens were found on sloping ground in the mature forest. Under kanuka Ptychomnion aciculare formed dense carpets many square metres in extent, with Thuidium furfurosum, Dicranoloma billardierei, and Hypnum cupressiforme. In the more open sites Campylopus introflexus and Bryum billardierei were found, while in semi-stabilised dune areas at the margin of Tapu Bush Rhynchostegium tenuifolium, Bryum sauteri, B. billardierei and Leptodontium interruptum colonised the bare sand. Under forest shade rotting wood provided a substrate for Sematophyllum amoenum, Eurhynchium muriculatum, Rhynchostegium tenuifolium, Racopilum convolutaceum, Tetraphidopsis pusilla, and the umbrella moss, Hypnodendron colensoi. A striking feature of both forest remnants was the wealth of epiphytic mosses, another indication of long periods of high humidity, and, no doubt, of the age of the forest. A total of five species of Macromitrium were recorded on tree trunks, including M. ligulaefolium, a predominantly Australian moss with very few records in New Zealand. Other epiphytic species included Papillaria crocea, Orthorrhynchium elegans, Zygodon intermedius, Haplohymenium psuedo-triste, and several species of Camptochaete. Trachyloma diversinerve formed conspicuous frills around the bases of small trees in parts of Pretty Bush.

Below are listed all species recorded in either Tapu Bush (a total 51 species) or Pretty Bush (23 species), together with the accession numbers of vouchers placed in the Herbarium of the Auckland Institute and Museum. Habitats in which mosses seen are indicated as follows:

- M = mature mixed broadleaf forest
- K = kanuka forest
- D = semi-stabilised dune

* indicates that capsules were seen.

| | Tapu Bush | Pretty Bush | Voucher AK |
|--|-----------|-------------|------------|
| * <u>Achrophyllum dentatum</u> (H.f. & W.) Vitt & Crosby | MK | - | 201987 |
| * <u>Brachythecium rutabulum</u> (Hedw.) B.S.G. | K | - | 201988 |

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|---|-----|----|--------|
| * <u>Bryum billardierei</u> Schwaegr. var. <u>platyloma</u> Mohamed | KD | MD | 201989 |
| <u>B. sauteri</u> B.S.G. | D | - | 201990 |
| <u>Calyptrochaeta brownii</u> (Dix.) J.K. Bartlett | M | - | 201991 |
| <u>Camptochaete arbuscula</u> (Sm.) Reichdt. | M | M | 201992 |
| * <u>C. pulvinata</u> (H.f. & W.) Jaeg. | M | - | 201993 |
| <u>C. ramulosa</u> (Mitt.) Jaeg. | M | M | 201994 |
| * <u>Campylopus introflexus</u> (Hedw.) Brid. | KD | - | 201995 |
| <u>C. pyriformis</u> (Schultz) Brid. | K | - | 201996 |
| <u>Cyathophorum bulbosum</u> (Hedw.) C. Muell. | K | - | 201997 |
| <u>Cyrtopus setosus</u> (Hedw.) H.f. | M | - | 201998 |
| <u>Dicranoloma billardierei</u> (Brid. ex anon.) Par. | K | - | 201999 |
| * <u>D. fasciatum</u> (Hedw.) Par. | K | - | 202000 |
| <u>D. menziesii</u> (H.f. & W.) Par. | M | - | 202001 |
| <u>Distichophyllum crispulum</u> (H.f. & W.) Mitt. | M | - | 202002 |
| * <u>Eurhynchium muriculatum</u> (H.f. & W.) Jaeg. | M | - | 202003 |
| * <u>Fissidens pungens</u> C. Muell. & Hampe | M | - | 202004 |
| * <u>F. tenellus</u> H.f. & W. | M | - | 202005 |
| <u>Haplohymenium pseudo-triste</u> (C. Muell.) Broth. | MK | - | 202006 |
| <u>Homalia falcifolia</u> (H.f. & W.) H.f. & W. | M | - | 202007 |
| <u>Hypnodendron colensoi</u> (H.f. & W.) Mitt. | M | - | 202008 |
| <u>Hypnum chrysogaster</u> C. Muell. | MK | M | 202009 |
| * <u>H. cupressiforme</u> Hedw. | K | K | 202010 |
| <u>Hypopterygium rotulatum</u> (Hedw.) Brid. | MK | M | 202011 |
| <u>Lembophyllum divulsum</u> (H.f. & W.) Par. | - | M | 201986 |
| <u>Leptodontium interruptum</u> (Mitt.) Broth. | D | - | 202012 |
| * <u>Leptostomum macrocarpum</u> (Hedw.) Pyl. | MK | M | 202013 |
| <u>Leucobryum candidum</u> (P. Beauv.) Wils. | K | - | 202014 |
| <u>Lopidium concinnum</u> (Hook.) H.f. & W. | M | - | 202015 |
| * <u>Macromitrium gracile</u> (Hook.) Schwaegr. | MK | M | 202016 |
| * <u>M. ligulaefolium</u> Broth. | M | - | 202017 |
| * <u>M. ligulare</u> Mitt. | MK | M | 202018 |
| * <u>M. prorepens</u> (Hook.) Schwaegr. | MK | - | 202019 |
| <u>M. retusum</u> H.f. & W. | M | M | 202020 |
| * <u>Orthorrhynchium elegans</u> (H.f. & W.) Reichdt. | MK | M | 202022 |
| <u>Papillaria crocea</u> (Hampe) Jaeg. | M | M | 202023 |
| * <u>Ptychomnion aciculare</u> (Brid.) Mitt. | K | K | 202024 |
| * <u>Racopilum convolutaceum</u> (C. Muell.) Reichdt. | MK | M | 202025 |
| <u>Rhynchostegium tenuifolium</u> (Hedw.) Reichdt. | MKD | M | 202026 |
| <u>Sematophyllum amoenum</u> (Hedw.) Mitt. | MK | M | 202027 |
| <u>Stokesiella praelonga</u> (Hedw.) Robins. | K | - | 202028 |
| <u>Tetraphidopsis pusilla</u> (H.f. & W.) Dix. | M | - | 202029 |
| * <u>Thuidium furfuriosum</u> (H.f. & W.) Reichdt. | K | M | 202030 |
| <u>T. sparsum</u> (H.f. & W.) Jaeg. | M | M | 201985 |
| * <u>Tortella knightii</u> (Mitt.) Broth. | K | - | 202031 |
| * <u>Trachyloma diversinerve</u> Hampe | M | M | 202032 |
| <u>T. planifolium</u> (Hedw.) Brid. | K | - | 202033 |
| <u>Weymouthia cochlearifolia</u> (Schwaegr.) Dix. | M | M | 202034 |
| <u>W. mollis</u> (Hedw.) Broth. | MK | M | 202035 |
| <u>Wikia extenuata</u> (Brid.) Crum | MK | - | 202036 |
| * <u>Zygodon intermedius</u> B.S.G. | MK | M | 202037 |