

BRYOPHYTE SURVEY
OF
THE ISLAND
SOUTH BRENT

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Introduction

The Island is situated in South Brent (SX695602) managed by the Brent Island Trust for the benefit of wildlife and people.

This report is a survey of the bryophytes of The Island undertaken in July and September 2017 by local resident and ecologist Mike Ingram to update a previous survey done by Mark Pool in July 1994.

Methodology

The site was visited on 19 and 27 July 2017 and 14 September 2017 and bryophytes (mosses and liverworts) found were recorded from around the Island visiting as many different areas as possible. An indication of the overall relative abundance of the species recorded on The Island was done using the DAFOR system -D= Dominant, A= Abundant, F= Frequent, O= Occasional, R= Rare. This is shown in the species list in appendix 1. This only gives an indication of the status of the plant just for the site based on the small number of visits. English names are referred to in the species list in appendix 1.

Site Description

There are a number of different habitats on the Island where bryophytes can flourish.

Woodland – There are both mature and young deciduous trees located mainly around the river edge. The species include mature sycamore and oak with hazel, hawthorn and elder as an understory. There is also some dead wood both in the woodland and in the river.

Scrub- There are areas of scrub particularly where the grassland joins the woodland. This consists of bramble and shrub species.

Grassland- A large proportion of the site is maintained as unimproved grassland and this can support a number of bryophytes associated with open ground habitats.

Freshwater- This includes the river Avon as well as the leats and other wet flushes. There are a large number of rocks and boulders within the river.

Built structures – There are a number of built structures on the site including the leats, bridge, stone walls and the linhay.

Survey Results

The species list is shown in appendix 1 and shows a number of 59 bryophytes (11 liverworts and 48 mosses) recorded in 2017 compared to 76 recorded in 1994. 24 species that were recorded in 1994 were not found in 2017 however there were 10 additions to the 1994 list. These were *Eucladium verticillatum*, *Dicranum scoparium*, *Campylopus introflexus*, *Campylopus flexuosus*, *Fissidens adianthoides*, *Polytrichastrum formosum*, *Plagiothecium nemorale* and *Brachythecium velutinum*, *Fissidens taxifolius* var *taxifolius* and *Hypnum resupinatum*

There is a diverse range of habitats on The Island available to bryophytes and the total list of a respectable 84 species for the site, combining both surveys, reflects the species typical of the habitats represented.

The most significant species in terms of rarity is the Many-leaved Pocket Moss *Fissidens polyphyllus* which although locally common on the River Avon is nationally rare. The large flattened shoots of this species can be found on rocks and banks in the river around The Island.

Whilst there was a lower number of species recorded in 2017 compared to 1994 it does not automatically suggest a worrying decline as species can easily be overlooked. However some key habitats that supported species in 1994, eg mature Elders, have now disappeared and some natural changes in vegetation may have made a few places unsuitable for some species.

Woodland

Individual mature trees and woodland generally are very important for bryophytes and species such as *Hypnum* sp. *Cryphea heteromalla*, *Zygodon viridissimus*, *Frullania dilatata*, *Neckera complanata*, *Metzgeria furcata* and *Lophocolea bidentata* were all noted frequently.

Dead wood is also particularly important for bryophytes and a rotting log just on the edge of the woodland revealed *Dicranum scoparium*, *Polytrichastrum formosum*, *Campylopus flexuosa* and the non native *Campylopus introflexus* with its characteristic star shaped hair points. The distinctive liverwort *Lepidozia reptans* was also found here. A large decaying oak at the northern end of the island by the river had a colony of *Nowelia curvifolia*. This rust colouring of this liverwort (hence the vernacular name Rustwort) is distinctive, often covering rotten logs.

Scrub

The scrub consists of shrub species such as willow, hazel and bramble along the edge of the woodland with dense patches just to the south of the Linhay.

The larger shrub species had abundant *Metgeria furcata*, *Frullania dilatata* and *Ulota sp.* on their stems and branches.

Grassland

Unimproved grassland can support a number of bryophytes however the grassland on the Island were very poor in species and only a few examples of the common mosses *Rhytidiadelphus squarrosus* and *Kindbergia praelonga* were found although a small patch of *Thuidium tamariscinum* was noted at the southern end of the island as in the 1994 survey. It would be expected to find *Pseudoscleropodium purum*, *Calliergonella cuspidatum* and *Brachythecium rutabulum* as these are also frequently found on grassland habitats but were absent.

Man made Structures

These can be very rich in bryophytes and there are a number of man made structures on the site including the linhay, leat, dam, bridge, footpaths and walls. Many of these features are built with local stone which is predominantly acidic but with lime mortared joints which provide a niche for a few species which require alkaline conditions to thrive. A notable find was the locally common *Eucladium verticillatum* on a mortared joint under the bridge as well as the more frequent *Didymodon insulanus*. The distinctive glossy common calcifuge *Homalothecium sericeum* was found on the stone work of bridge and the calcicole *Rhychoستيgiella tenella* on the lime mortared joints. The very common *Brachythecium rutabulum* was also found here.

Freshwater

The River Avon and the associated habitats of leats, rocks and flood influenced banks are significant habitats and support a range of bryophytes.

The two large and distinct aquatic mosses – *Fontanalis anti pyretica* and *Fontanalis squamosa* were both found within the river around The Island. Their long straggling shoots are found clinging to rocks underwater with *F. squamosa*

being much more restricted to the west of Britain and generally less common than *F.antipyretica*. Another common aquatic species around the site is *Platyhypnidium riparioides* which again has straggling shoots attached to rocks.

The emergent rocks amongst the river had good examples of *Hygrohypnum ochraceum*, *Dichodontium pellucidum*, the liverwort *Scapania undulata* and as mentioned good examples of the rare *Fissidens polyphyllus*.

Habitat Conservation for Bryophytes

The Island has a good number of bryophyte species and it is important to maintain and enhance the habitats present to prevent losses to this diversity and if possible increase it.

Key management objectives would include the following:-

- Maintain and enhance mature trees and shrubs of different species. Eg Ash, Oak, Hazel, Elder and Willows. Encouraging open grown mature trees and shrubs through thinning can help increase the niches where species can live.
- Different tree species differ in the acidity or alkalinity of their bark and some bryophytes prefer more acid barks (eg Pine and Birch) whereas other species will prefer to grow on the more alkaline barks (eg Ash and Sycamore)therefore having a diverse range of species will help this.
- Where possible retain any dead wood on site after any tree felling or management occurs. Piles of dead and rotting branches and trunks, as well as tree stumps, are important for lower plants in general as well as other wildlife.
- Leave bryophytes wherever possible on built structures rather than remove them. Old buildings can be rich in bryophytes as there will be some species associated with acid substrates like granite (calcifuges)and others associated with the lime rich mortared joints(calcicoles). “Tidying” buildings of vegetation can remove a number of species associated there.
- Woody debris in the river can be an important habitat for bryophytes and other wildlife.
- Avoid using herbicides wherever possible.



Moss covered log with *Polytrichastrum formosum* and *Dicranum scoparium*. Photo: M.Ingram



Moss covered boulders and shady banks on the River Avon are home to *Racomitrium aciculare*, *Platyhypnidium riparoides*, *Hygrohypnum ochracea* and *Fissidens polyphyllus*. Photo.M.Ingram



The Nationally Scarce *Fissidens polyphyllus* (Many leaved Pocket Moss), The Island, July 2017



Orthotrichum pulchellum (Elegant Bristle Moss) A species that often commonly found on twigs.



Plagiochila porelloides (Lesser Featherwort) This liverwort produces distinctive “feathery” mats on sheltered streamside banks. The Island, July 2017. Photo. M. Ingram



Map of the Island, South Brent.

Appendix 1

BRYOPHYTE SURVEY OF THE ISLAND,SOUTH BRENT		
Survey date : 19/27 July and 14 September 2017		
Grid Reference: SX 695604		
Recorder: Mike Ingram 2017		
Liverworts		
Species	DAFOR	Comments
<i>Chiloscyphus polyanthus</i> (St Winifrids'sMoss)	Rare	On rocks on river
<i>Conicephalum conicum</i> (Great Scented Liverwort)	Frequent	Scattered along riverbank
<i>Frullania dilatata</i> (Dilated Scalewort)	Frequent	On trees
<i>Lepidozia reptans</i> (Creeping Fingerwort)	Rare	On rotting log.
<i>Lophocolea bidentata</i> (Bifid Crestwort)	Frequent	On banks
<i>Metzgeria furcata</i> (Forked Veilwort)	Frequent	On trees
<i>Metzgera temperata</i> (Whiskered Veilwort)	Occasional	On oak branch.
<i>Microleujeunea ulicina</i> (Fairy Beads)	Occasional	On bark
<i>Nowellia curvifolia</i> (Rustwort)	Rare	On rotting oak by river East side.
<i>Plagiochila porelloides</i> (Lesser Featherwort)	Occasional	On banks along river.
<i>Scapania undulata</i> (Water Earwort)	Frequent	On rocks on river
Mosses		
<i>Amblystegium serpens</i> (Creeping Feather-moss)	Occasional	eg on base of Linhay
<i>Atrichum undulatum</i> (St.Catherine's Moss)	Occasional	Under trees.
<i>Brachythecium plumosum</i> (Rusty Feather-moss)	Occasional	On rocks in river
<i>Brachythecium rutabulum</i> (Rough stalked Feather -moss)	Frequent	On bridge
<i>Brachythecium velutinum</i> (Velvet Feather-moss))	Rare	On banks along river.
<i>Bryum capillare</i> (Capillary Thread-moss)	Rare	On bank.
<i>Campylopus flexuosus</i> (Rusty Swan neck Moss)	Rare	On rotting log near bridge
<i>Campylopus introflexus</i> (Heath Star -moss)	Rare	On rotting log near bridge
<i>Cirriphyllum crassinervum</i> (Beech Feather-moss)	Rare	On bank
<i>Cryphea heteromalla</i> (Lateral Cryphea)	On trees	on west side.
<i>Dichodontium pellucidum</i> (Transparent Fork-moss)	Occasional	On rocks on river
<i>Dicranella heteromalla</i> (Silky Forklet-moss)	Occasional	On rotting log by river East side.
<i>Dicranum scoparium</i> (Broom Fork-moss)	Rare	On rotting log near bridge
<i>Didymodon insulanus</i> (Cylindric Beard -moss)	Rare	on bridge
<i>Eucladium verticilliatum</i> (Whorled Tufa-moss)	Rare	on mortar on bridge
<i>Eurhyncium striatum</i> (Common Striated Feather -moss)	Local	woodland
<i>Fissidens polyphyllus</i> (Many leaved Pocket Moss)	Frequent	On rocks in river
<i>Fissidens taxifolius var taxifolius</i> (Common Pocket Moss)	Occasional	On banks along river.
<i>Fissidens adianthoides</i> (Maidenhair Pocket Moss)	Rare	On banks along river.
<i>Fontanalis antipyretica</i> (Greater Water-moss)	Occasional	On rocks in river
<i>Fontanalis squamosa</i> (Alpine Water-moss)	Frequent	On rocks in river
<i>Homalia trichomanoides</i> (Blunt Feather -moss)	Occasional	On banks along river eg N side.
<i>Homalothecium sericeum</i> (Silky Wall Feather -moss)	Rare	on bridge
<i>Hygrohypnum ochraceum</i> (Claw Brook-moss)	Frequent	On rocks on river

<i>Hycomium armoricum</i> (Flagellate Feather-moss)	Rare	On rocks on river
<i>Hypnum cupressiforme</i> (Cypress -leaved Plait -moss)	Frequent	on trees
<i>Hypnum andoi</i> (Mamillate Plait-moss)	Frequent	On trees
<i>Hypnum resupinatum</i> (Supine Plait-moss)	Occasional	On trees
<i>Isothecium myosuroides</i> (Mouse-tail Moss)	Abundant	On trees
<i>Isothecium alopecroides</i> (Large Mouse- tail Moss)	Occasional	
<i>Kindbergia praelonga</i> (Common Feather- moss)	Frequent	Various habitats
<i>Mnium hornum</i> (Swan's-neck Thyme-moss)	Frequent	Along river bank
<i>Neckera complanata</i> (Flat Neckera)	Frequent	On trees
<i>Neckera pumila</i> (Dwarf Neckera)	Rare	On sycamore near bridge.
<i>Orthotricum pulchellum</i> (Elegant Bristle Moss)	Occasional	On trees
<i>Plagiomnium undulatum</i> (Hart's-tongue Thyme-moss)	Occasional	Along river bank
<i>Plagiothecium nemorale</i> (Juicy Silk-moss)	Rare	Along river bank
<i>Platyhypnidium riparioides</i> (Long beaked Water Feather-moss)	Abundant	on rocks in river
<i>Pseudotaxiphyllum elegans</i> (Elegant Silk-moss)	Rare	On oak
<i>Racomitrium aciculare</i> (Yellow Fringe-moss)	Occasional	On rocks in river
<i>Rhizomnium punctatum</i> (Dotted Thyme -moss)	Frequent	along river bank
<i>Rhynchostegiella tenella</i> (Tender Feather-moss)	Rare	on bridge
<i>Rhynchostegium confertum</i> (Clustered Feather-moss)	Occasional	
<i>Rhytidiadelphus squarrosus</i> (Springy Turf-moss)	Rare	On grassland
<i>Thamnobryum alopecurum</i> (Fox-tail Feather-moss)	Abundant	Can be locally dominant along river.
<i>Thuidium tamariscinum</i> (Common Tamarisk-moss)	Rare	On grassland.
<i>Ulota crispa</i> (Crisped Pincushion moss)	Occasional	On trees
<i>Ulota phyllantha</i> (Frizzled Pincussion)	Occasional	On oak tree on N.side.
<i>Zygodon viridissimus var viridissimus</i> (Green Yoke-moss)	Occasional	On trees.

Acknowledgements

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