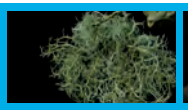
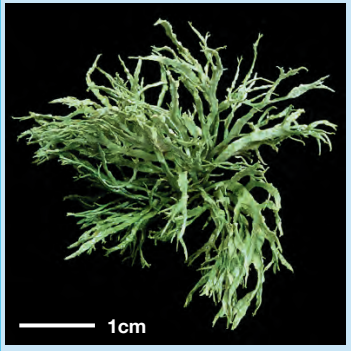
Don't get confused

Nitrogen-sensitive lichens
that can be confused with *Usnea* and *Evernia*

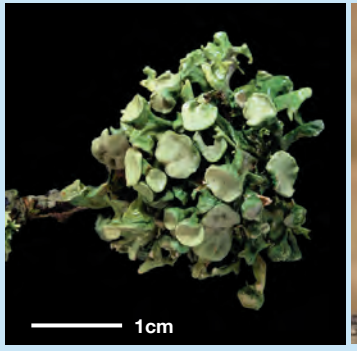

Usnea


Evernia



Ramalina farinacea can be confused with *Usnea* and *Evernia*, but:

- it has strap-like branches, unlike *Usnea* which has thread-like branches
- it is green on the underside unlike *Evernia* which is white on the underside



Ramalina fastigiata can be confused with *Evernia*, but:

- the lobes are wider than *Evernia*
- it has disc-like fruiting bodies on the ends of the lobes, which *Evernia* does not have

Pseudevernia can be confused with *Evernia*, but:

- the lower surface is blackish in the centre rather than white like *Evernia*
- it has pin-like reproductive structures on the upper surface of the lobes, unlike *Evernia*

Nitrogen-loving lichens
that can be confused with Leafy and Cushion *Xanthoria*


Leafy *Xanthoria*


Cushion *Xanthoria*

Candelaria concolor can be confused with Leafy *Xanthoria* and Cushion *Xanthoria*, but:

- it has bright yellow lobes that are thinner and more finely divided than *Xanthoria*
- fruiting bodies may not be present

Don't get confused between Leafy *Xanthoria* and Cushion *Xanthoria*. Leafy *Xanthoria* has broad spreading lobes with or without fruiting bodies. Cushion *Xanthoria* has very small lobes and is usually dominated by many fruiting bodies.

Photographs by William Purvis, Mike Sutcliffe and John Douglass. Text by Pat Wolseley. Designed by FSC Publications.
© OPAL 2015. All rights reserved.

NATURAL HISTORY MUSEUM

LOTTERY FUNDED

Lichen
Identification Guide

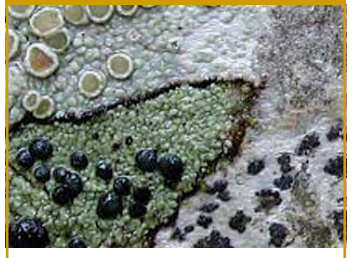
This guide can be used for the OPAL Air Survey

OPAL EXPLORE NATURE

Lichens are made up of two or more different organisms living together, a fungus and an alga. The fungus provides the body (thallus) in which the algal partner can live, protected from damaging conditions such as high levels of light (ultraviolet radiation) and lack of water (drought). The algal partner provides the essential carbohydrates (food for the fungus) from carbon dioxide and water, with the aid of sunlight. This close, interdependent relationship is referred to as a symbiosis.

Unlike mosses and flowering plants, lichens do not have green leaves or a stem. They may be pale or bright coloured and commonly occur in three forms:

Crusty lichens



Closely attached as if pressed on the bark. Crusty lichens are difficult to identify, so are not included in this survey.

Leafy lichens

Leaf-like lobes closely or loosely attached to the bark from the lower surface.

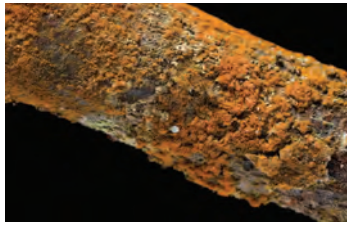
Bushy lichens

Branched and shrub-like, attached to the bark at the base.

The nine types of lichen in the OPAL Air Survey (overleaf) are all leafy or bushy.
Lichens can be confused with moss or algae


Moss


Green algae


Orange algae

Lichen bioindicators

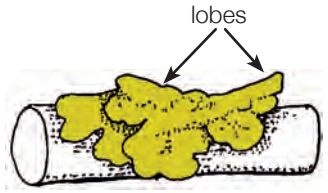
Why lichens? Lichens that are highly sensitive to air quality have been used to detect sources of pollution. In the past, when the air in many places was highly polluted by sulphur dioxide, few lichens could survive, creating lichen deserts around many industrial and urban areas. Lichens are now returning to towns and cities in the UK, and they can still provide a great deal of information about air quality.

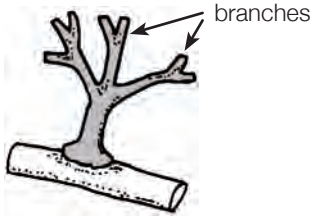
Nitrogen-sensitive lichens are outlined in **blue**

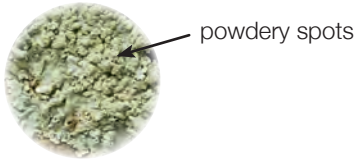
Intermediate lichens can be found in clean and polluted conditions and are outlined in **grey**

Nitrogen-loving lichens are outlined in **red**

Important lichen terms

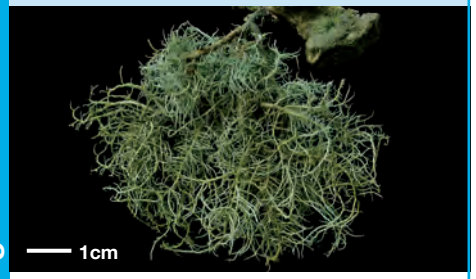






Nitrogen-sensitive

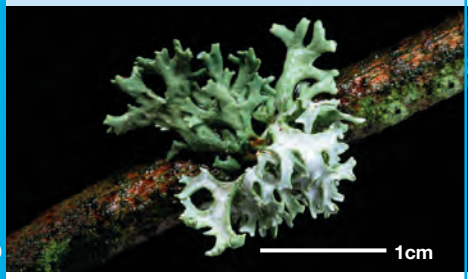
1. *Usnea*



- grey-green all round
- branches thread-like

Nitrogen-sensitive

2. *Evernia*



- grey-green on top, white below
- lobes flattened, strap-like

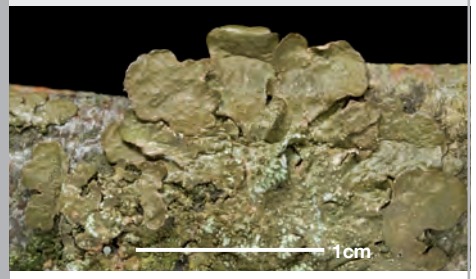
Nitrogen-sensitive

3. *Hypogymnia*

- lobes greyish on top, pale brown below
- lobes puffed up and hollow
- lobe ends often become powdery

Intermediate

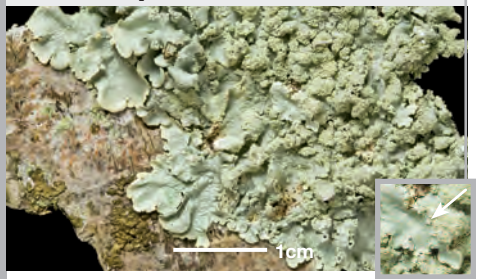
4. *Melanelixia*



- dull brown lobes, closely attached to the bark
- paler areas show when surface is rubbed

Intermediate

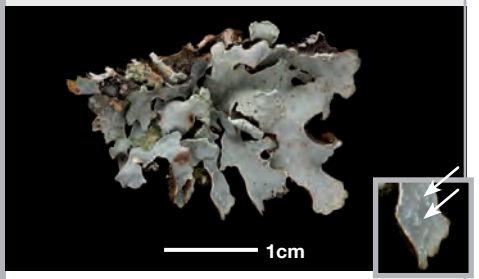
5. *Flavoparmelia*



- broad, apple-green lobes
- wrinkled surface on which powdery spots may develop

Intermediate

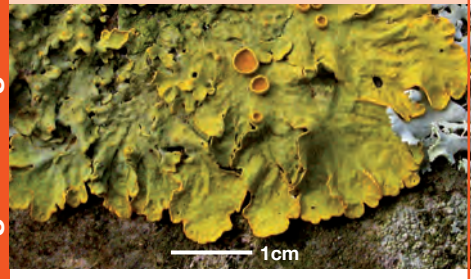
6. *Parmelia*



- lobes grey on top, dark brown below
- lobes thin, loosely attached to the bark
- pattern of white lines on the surface

Nitrogen-loving

7. Leafy *Xanthoria*



- lobes yellow/orange to greenish yellow
- lobes broad, spreading
- a few orange fruiting bodies present

Nitrogen-loving

8. Cushion *Xanthoria*

- lobes yellow to green-grey
- lobes small and clustered
- many orange fruiting bodies present

Nitrogen-loving

9. *Physcia*

- lobes grey on top, whitish below
- lobe ends raised up becoming powdery
- black-tipped whiskers on the lobe edges