

## The Mist Net of the Cloud Forest

Cloudbridge Nature Reserve - Nature Notes No. 6

### Capturing the Cloud

Old Man's Beard, *Usnea* sp., is that green-grey foliage draped over many of the trees of Cloudbridge. Some trees are so densely festooned that it is difficult to tell what kind they are. This living net, a form of lichen, captures a good deal of moisture from the mist and distributes it gradually to the surrounding forest, rather than letting it run off. These, like other epiphytes (air plants), play an important role in rainforests in flood prevention and limiting the leaching of nutrients. During very heavy rainfall they act as giant sponges and absorb massive quantities of water and release it slowly. This ability of certain cells is called poikilohydric (and is exhibited by many species of mosses, liverworts and lichens). These specialised tissues are important for water storage and drought resistance.



*Tillandsia usneoides* From a distance, Old Man's Beard is frequently mistaken for Spanish Moss, but a close look reveals that the color and shape are somewhat different. At left is the real Spanish Moss. It is a little grayer and denser than the lichen, It is neither Spanish nor a moss -- it's a flowering plant, a bromeliad, part of the family that includes the pineapple. Although they look alike *Usnea* is a lichen, a symbiotic combination of an alga and a fungus. Spanish Moss has uniform strands, while Old Man's Beard comprises a central strand holding a tangle of strings around it. The similarity between the two has long been noted -- the great botanist Carl Linnaeus named the Spanish Moss *Tillandsia usneoides*

, which means literally, "Tillandsia that looks like *Usnea*." Spanish Moss occurs in lowland forests from the southeastern US to Chile and Argentina. *Usnea* is found in cooler, mountain areas, like the forests of the northern USA and the cloud forests of Costa Rica. In the picture below, the lichen *Usnea* is on the left and the bromeliad *Tillandsia* on the right.

