

AUTUMN COLOUR



Our understanding of why leaves change colours in fall is far from complete. Two types of factors are thought to be involved: 1. changes within the leaf, particularly those concerning development of pigments; 2. changes in conditions outside the leaf (e.g.- weather). Autumn colours are also associated with the waning vitality of the leaf. As summer and the growing season draw to a close, a special layer of cells is formed at the base of the leaf which prevents water and other materials from entering or leaving the leaf. This slows down processes occurring in the leaf and interferes with the production of chlorophyll, the green pigment which most plants use to make food. After existing supplies of chlorophyll are used up, the leaf loses its green colour. This allows any other pigments present in the leaf to show up, and also permits production of new colouring matters not previously present in the leaf.

In an ordinary leaf there are always yellow pigments associated with the green chlorophyll. Thus, unless there are other pigments present to mask it, a leaf will turn yellow after its green pigment has disappeared.

The red colours we see are caused by pigments which form after the leaf begins to decline. The formation of red pigments apparently requires plenty of light, and it may be that the disappearance of green permits enough extra light to enter the leaf to permit red pigments to form. Perhaps it is partly for this reason that the most brilliant leaf colours are often found when the autumn season is bright and sunny rather than dull and cloudy.

Leaves which develop the greatest intensity of red, like the maples, are often rich in sugar. Red colour is usually richest in seasons when there is an abrupt change from high summer temperatures to low autumn temperatures. Perhaps under such conditions the movement of sugars and other materials out of the leaf and into the rest of the tree for winter storage is retarded. The presence of sugar in the leaf seems to be a starting requirement in the formation of red pigment.

Although frost may play a part in autumn colouration, it is not essential as many leaves are observed to turn red or yellow before the first frost occurs. As the season advances and the nights become colder, colours gradually fade due to the breakdown of pigments and other compounds within the leaf. As the products of these decomposition processes accumulate, the leaf acquires a brown colour and eventually falls to the ground.

THANKSGIVING DAY WALK. Despite the lack of cooperation from the weatherman, some 10 hardy souls braved rain and high winds to enjoy a walk around the pond at Moore's Bird Sanctuary on the 8th of October. The presence of some avid naturalists from Montague raised the spirits of the group who found the new board-walks most helpful in getting over some of the wet spots on the trail. The inclement weather prevented bird watching; however, the front pond was host to several hundred Canada geese, and both black and mallard ducks. The woods were full of mushrooms, many of which Art Reddin was able to identify. On the return trip to Charlottetown, a quantity of shaggy mane (Coprinus comatus) were collected from the Vernon River area and which according to one mushroom fancier, provided that extra touch to Thanksgiving Dinner that evening.