

BOREAL BITS

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AUTUMN—THE FALLING

“Delicious autumn! My very soul is wedded to it, and if I were a bird I would fly about the earth seeking the successive autumns.” George Eliot

Rains of late August and September wash away the high temperatures that characterize our late summer and introduce 'fall' – a beautifully appropriate name for a season on the same scale as the name 'spring'—when the leaves of our deciduous trees fall off, an adaptation of survival for the coming winter. Indeed, the word deciduous is derived from Latin meaning cut or fall off. Fall is an exciting time and many people choose it as their most favourite season, fraught with vibrant change but, alas, leaving us with the Big Sleep we must endure for many months before life returns.

The autumn colours appearing on ashes, sumac, maples and poplars are really not new at all. They



are simply the original colours of the leaves minus the influence of the green chlorophyll. These 'base' colours are determined by the genetic makeup of the trees and by the presence of certain minerals in the soil. Because the majority of our deciduous or

broadleaf trees are members of the aspen family, we have a predominance of yellow and gold in our fall landscapes.

Our needle leaf trees are able to survive our brutal winters. Surely Mother Nature could have designed deciduous leaves with the same tough, waterproof cuticle that conifers have, and infused them with chemicals that reduce the risk of freezing damage to the cells. Undoubtedly old Mom could have done this but she would have had to redesign the broad leaf while she was at it. One of the reasons why conifers can survive the long, bitter drought and drying winds of winter is that the

surface area of the needle-shaped leaves (yes, needles are leaves) is greatly reduced, and covered with a waxy coating. Because the chlorophyll remains, the plant can continue to produce food long after deciduous trees have given up the ghost.

Botanists claim that the deciduous tree is a later development in the evolution of plant life. First ferns with year-round fronds made their appearance and needle leaf trees followed. Like conifers today, they didn't shed their leaves all at once either. When, after countless millions of years, the deciduous tree appeared, it was a marvelous adaptation. However, when all the leaves are dropped

there is a considerable waste of energy and to compensate, the roots, trunk and branches of the plant store a lot of energy for next year's growing season. To give the new leaves a jump-start in spring, leaf buds are already present on the trees even before the existing leaves have fallen. Take a good look at the trees and shrubs in your yard and you will see these leaf buds patiently waiting for the next growing season. It is rather reassuring.

Mom N. knows that good, broad energy-trapping leaves could never survive the cold, drought and vagaries of winter weather. So that trees don't 'bleed to death' in the fall

when leaves drop off, a leaf scar—actually a scab—is formed and when it is complete the leaves fall. The leaves are better off on the ground where the decomposers can break them down and make the nutrients available to future crops of leaves. When you tread on golden pathways in the fall, you



are really walking on lunch a few years down the road. Dig into the forest soil and you will see the levels representing past years. This year's crispy leaves are on top, beneath that layer is decaying vegetation from last year, and beneath that is a rich brown and black humus you can't recognize as vegetation.

Mom N., as she is wont to works just to confuse us. tamarack or larch, the only its leaves each fall. You golden, feathery, soft-areas. Because this is a



do, threw a wrench into the She developed the conifer in our area to shed will often find these needled trees in damp deciduous conifer, it does

not have the need for stiff needles and a tough waterproof, waxy coating.

One of the reasons for the beauty of the Boreal Forest is the variety of scenery afforded us by the mixture of deciduous and coniferous trees. How bleak our winters would be if we didn't have conifers with their needle leaves that are forever green, and how equally bleak our other seasons would be without the joy of budding deciduous forests, their variegated shades of summer green and their magical transformation in fall.