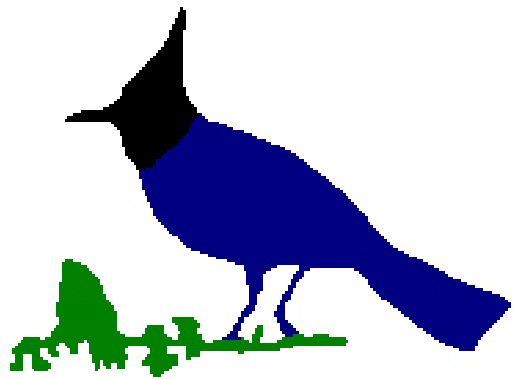


Nature Notes

Trees Surviving Winter



Winter is a difficult time for trees.

Without being able to migrate to milder climates or seek shelter as animals do, trees must find other ways to withstand the harsh Canadian winter. Like most trees in Canada, those found in the Kimberley Nature Park (KNP) face several months of freezing temperatures and a lack of water each year.



Deciduous trees in winter, photo by J. Duncan

Dropping their leaves helps deciduous, or broadleaf, trees to cope with both these winter dangers. The tender cells of the deciduous leaves would freeze and burst during the freezing winter, causing great damage to the tree. As part of preparing to drop, the leaves turn the brilliant yellows, reds or oranges that make our falls so colourful.

Losing leaves is also a major part of the strategy to conserve the precious, small amount of moisture available to the tree in the frozen temperatures of winter.

Conifer, or evergreen, trees employ a different strategy to survive the challenge. Instead of dropping their needles, conifers hold onto them for several years. Shorter days trigger a chemical change that lowers the freezing point of the cells within the needles resulting in the liquids in the outer part of the needles freezing first, providing additional protection to the cells. To reduce water loss, evergreens minimize evapo- transpiration by having a waxy coating and small pore openings.

The larch trees that grace our hills with a stunning, golden display in fall plays by their own rules. A conifer that drops its needles each year would seem to lose the advantages of either the deciduous or conifer adaptations but the strategy works for larches which are able to survive some of the harshest of arctic winters. The ability of the natural world to find unique and diverse ways of survival is truly amazing!



Douglas fir needles, photo by J Duncan

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