

Quiet Riot in the Winter Garden

By Susan Camp

For many people, winter with its dark, cold days and nights, brings sadness and longing for sunshine and warmth. In winter, Mother Earth shows her bones. The ground is bare— no grass, no colorful flowers, only evergreen leaves. The shape of the land stands out in sharp relief, with jutting rocks and tree roots just under the surface, like veins on an old woman's hands. The land in winter holds a spare and haunting beauty, sometimes softened by a snowfall or a long, soaking rain.

Several afternoons ago, I looked out the upstairs window in front of my workspace. On the surface, our garden looked rather sad and barren. The sun had dropped behind the leafless trees in the west, and I thought about the winter solstice on December 21st, the longest night of the year. Solstice celebrations in ancient times would have been joyous events, for the solstice heralds the beginning of the light half of the year. Daylight hours gradually lengthen and the soil and air begin to warm. Leaf buds appear on the trees and the first bulbs poke their little green heads through the soil.

I read these words that day: “And don't think the garden loses its ecstasy in winter. It's quiet, but the roots are down there riotous.” The lines are from a translation of “Form Is Ecstatic”, a poem by Rumi, the 13th century Sufi mystic and poet, who is one of the most quoted authors on the internet. Rumi's words made me pause and think about life beneath the soil's surface during the cold months of the year.

What is happening under the garden in winter? Are the roots “down there riotous”? Rumi may not have been a gardener, and he did not have 21st century science and technology to provide answers and insights, but he was not totally mistaken. There is movement and life beneath the winter garden before the soil freezes, although the riot is of the quiet variety.

Tree roots will continue to grow as long as the soil temperature remains between 32 and 41° F, although growth will be slower than in warmer seasons. Shrubs, perennials, and bulbs will grow roots, as well. Roots may freeze and die if the soil temperature drops below 20° F. Once the soil freezes, the plant will be unable to obtain the necessary moisture and nutrients to continue growing. If soil moisture is not available to the roots, cold winter winds can cause dehydration of evergreen leaves and branches, which quickly turn brown and may die. The chapter on basic botany in the Virginia Cooperative Extension (VCE) 2009 publication “The Master Gardener Handbook” explains the importance of temperature as one of the environmental factors that affect growth.

In winter, soil microbes and earthworms continue to process organic material, which enriches the soil. Some insects can slow their developmental processes and remain in suspended animation or diapause until the soil begins to warm, when they will continue to develop to the next stage of the life cycle. Freeze-susceptible insects, according to the Colorado State Cooperative Extension publication “Winter Survival Strategies of Insects” produce ethylene glycol to prevent freezing. Other insects are freeze-tolerant; the fluid surrounding their body cells freezes, lowering the freezing point, thus allowing the cells to survive.

Small rodents may hibernate underground during the winter, slowing body temperature, heart rate, breathing, and metabolic rate in order to conserve energy during a period of decreased food supply. Or they can just move into your house or shed. Reptiles may brumate, or enter a quiet state, in which they do not feed for long periods, but may awaken at intervals to drink water, and then return to the dormant state.

Even in winter, there is life under the surface of the garden, waiting for the lengthening days and rising temperatures to signal the increase in growth and reproduction that lead to the ecstasy that is springtime.

Happy Winter Solstice and Happy New Year!

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