

A Look Underground

Honestly, I haven't the patience for waiting for a fish to bite so have not studied the science of a worm on a hook. If I considered worms at all, it was to marvel at their capacity to enrich garden soils and from experience I have found that if there are no worms in the soil shoveled out to make room for a plant, that plant may not grow in wisdom and grace.

When we gardeners speak of worms we mean earthworms. Reference to such creatures as cutworms or cabbage worms is not worm talk: those pests are on their way to become beautiful moths and butterflies – and are in fact caterpillars. In earlier conversations I have mentioned those earthworms that are alien and become invasive causing problems in some areas.

Just as I was pondering questions about worms, such as "If they crawled across an August driveway would they fry before they reached the other side?" I was given "The Earth Moved" by Amy Stewart. It is over 200 pages of fascinating facts about earthworms. To make it truly usable, it has an index so I could check on the non-natives.

The book tells of worms in the rice terraces in the Philippine Islands Ifugao province. Those millennial terraces arc across mountains reaching four to six thousand feet above sea level. When the terraces were flooded for rice culture worms were excluded but when additional plants were installed after harvest, such as flowers and vegetables, the worms moved in, borrowed into the soil creating a Swiss cheese landscape and breaking down the terraces.

In our own country earthworms came along with the European who settled on the East coast and moved across the continent in the next few hundred years. Worms weren't invited probably but came along with potted plants and wagon wheels. Today some forests in Minnesota are being destroyed by an alien European worm. Those forests evolved over ten thousand years as the glaciers withdrew and there were no worms. In Minnesota the understory was dying, ferns disappearing along with wildflowers. Leaf litter is essential for seedling growth and when a season's leaf fall is consumed by hungry worms, there is no new growth.

It is assumed that the worms moving toward those affected forests are a result of having been dumped by fisher folk after a day's sport. Worms do not migrate far on their own wiggles; they have to be taken along by human actions. People are being directed to take their worms away with them and not release them on the ground. Although worms are capable of changing the ecology of a forest in negative ways, to the ordinary gardening landscape, they are a gift, enriching the soil and feeding plants.

Charles Darwin had a lifelong interest in earthworms and they were the subject of his final book, "The Formation of Vegetable Mould" published in 1881. Of worms Darwin wrote, "Their chief work is to sift the finer from the coarser particles, to mingle the whole with vegetable debris, and to saturate it with their intestinal secretions... worms play an important part in nature" Nineteenth century readers were surprised that the esteemed scientist would concern himself with a lowly life form considered a pest.

Since Darwin's day, worm scientists, oligochaetologists, have discovered that Darwin's estimate of worm abilities was low, that they are capable of changing the face of the earth. For example, in the Nile Valley worms deposit up to a thousand pounds of castings to an acre, resulting in one of the world's most fertile areas. From the wide world to our own backyards, the epigeic worm has a calciferous gland that enables it to process calcium in its diet and excrete the excess. Those castings are sufficiently rich in calcium to fend off the blossom end rot of tomatoes.

Before Darwin there was little appreciation for the intricate web of which worms are a part but with the astonishing leaps in microbiology today's gardeners can use that continually expanding knowledge to advantage. I plan to keep "The Earth Moved" close at hand so that when the acrimonious and noisy life on the surface frays my patience, I can retreat underground to the quiet regions where these deaf and blind creatures do the fine work for which they were designed.