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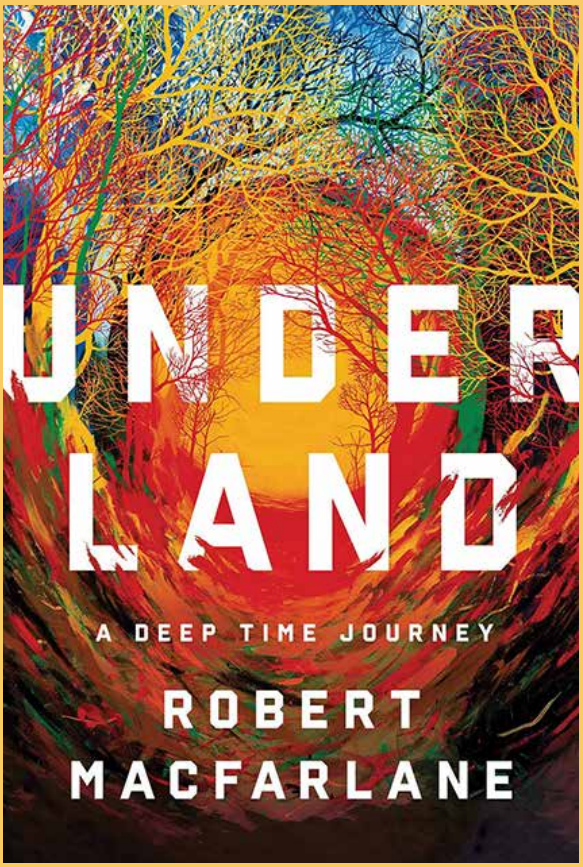
Santa Fe Extension Master Gardeners Newsletter



"Goin' Down, Down, Down"

by Eugenia Parry

Book Review

Underland: A Deep Time Journey
by Robert Macfarlane
Norton, 2019

In the long journey out of the self,
There are many detours, washed-out interrupted raw places
Where the shale slides dangerously …
… thickets darkening,
… ravines ugly.

—Theodore Roethke, "Journey into the Interior"

This alarming book burrows deep into worlds beneath the tips of our shovels and into the psyches of those worlds. It begins benignly with forest ecologist Suzanne Simard's 1997 publication in the journal *Nature* of her discovery, in a Canadian wood, that underground, paper birch trees and Douglas fir saplings talk to each other. In this "mutualism," via networks of filaments (the hyphae of mycorrhizal fungi) that extend for miles, birches sense which firs are hungry or ailing and move nutrients around to remedy the problem. Without birches in this "wood-wide web," the saplings died.

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"Goin' Down, Down, Down"—cont. from page 1

The magical, cutting-edge truth of such "forest wisdom" alerts Macfarlane to the future—"Forests offer new languages. We need to speak in spores."

Underland recounts a series of dramas below ground. Darkness experts in England, Europe, and Greenland guide him through their caverns. As he follows these devoted cavers, he records their stories—the Oxford student who lost his footing in a cave passage in Derbyshire—"I say," he called to friends above, "I'm stuck. I can't budge an inch." He died in place, after massive efforts failed to extract him, and remains cemented and memorialized in the murdering fissure.

Accounts like this alert us to the stakes of deciding to descend. The earth below plays tricks on visitors. But claustrophobia and fear of being buried alive get replaced by passionate curiosity and a kind of dreaming. The author, exploring a cave, begins to imagine his own blood and bones "evaporating" into a gas that would flow through the treacherous spaces and avoid disturbing the stones and boulders that could collapse and crush him.

It's a risk he needs. From the abyss he reexamines our biases against depth and burial. Blinding darkness becomes a source of insight, a fruitful medium for the new botanists uncovering the secret lives of fungi. The work deepens what he cares about most, not pure science as much as "the relationship between landscape and the human heart."

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In This Issue

Editor: Sarah Baldwin
Art Director: Jannine Cabossel

“Goin’ Down, Down, Down”—cont. from page 2

“Paris has another Paris under herself.” The author quotes Victor Hugo and lives for a sunless week with a society of lovers of what’s below who have rooted themselves in the limestone strata beneath the City of Light. Cavernous halls, connected by stairs and wells, are named: *Clinic of the Aliens* or *Hades*. Signs warn: *Flooded. Collapsing Ceiling*. Even here, French culture lives. Along with the better-known ossuaries he finds art exhibitions, mini-universities, film clubs, and 2,000 mushroom farms.

In northern Italy’s Carso region, the dissolving limestone (karst) topography of 10,000 caves and sinkholes has a peculiar relationship with several rivers and the magnetic pull of the moon—“here, the earth itself is tidal.” Some caves were votive spaces with altars, ancient coins, and oil lamps left by Roman followers of the underground god Mithras.

In Norway’s underland of the sea, Macfarlane meets those with the ability to “see through things” and joins their “battle for the soul of Norway,” where lucrative oil drilling threatens the country’s ancient identity as a fishing nation. In Greenland, “ice has a memory … in detail … for a million years or more.” Slovenia’s caves and sink-holes demonstrate how a geology fostered unspeakable WWII atrocities.

The author describes the significance of what he meets in detail, with countless on-site observations of nature’s moods, and alludes to the work of scores of writers as diverse as Aeschylus and H.G. Wells. The detail pumps warm blood into a bone-chilling subject. Besides, the book is so artfully written that we don’t begrudge him one syllable.

After 400 pages of storytelling, *Underland* closes with a cautionary reminder. Nature isn’t what it used to be. Forget shining mountain peaks. Forget raptors in flight. Concentrate on “tidelines thickened with drift plastic … methane clathrates decomposing over millions of square miles of warming permafrost. “Goin’ down, down, down,” we’re entangled “in ways we are only beginning to understand.”

Message from the President

by Wendy Wilson

2020 SFEMG Board President Wendy Wilson

Happy fall! It is a time of change. Last week we moved from Don Gaspar Avenue to the corner of Barcelona and Madrid. Our new house is a scant half-mile away but a world of difference. We gave up our well-cultivated garden awash in flowers, fruit shrubs and trees, and water features for a rather unkempt two acres with mature trees. I thought I'd miss the wildlife that is so abundant in the Don Gaspar garden. Knock me down with a feather; this yard has exponentially more birds. I'll have to work on planting perennials for the pollinators. The yard is a second chance for me to use the information I've gained from my intern training, from generous Master Gardeners, from continuing education hours studying permaculture with our SFEMG online group, and from voluminous reading.

Succession planning has been a goal of mine since I was sworn in as board president in January. The hit-or-miss method we currently use to recruit board members and project leaders is not efficient. Fortunately, for our fall election we have all but one position with a nominee.

How can we be more efficient? I suggest we develop a mentoring program where each board member and project leader identify people to raise up into leadership. I suggest that regular SFEMG members look at the board positions, committees, and projects that fit their skill and interest sets and volunteer to learn what the job entails. Any of the board members will be glad to answer questions you have. I will be highlighting a board position each month.

Apply your financial talents and be a volunteer for the finance audit committee. Two individuals are needed to assist the bookkeeper and the treasurer with a monthly audit of the bank statement. It is important to establish internal controls that assure a separation of duties by creating checks and balances, preventing fraud and theft, and ensuring that policies are followed. The time commitment is minimal: a one-time training session, then every other month or every month, if you choose to work as a team, auditing the bank statement to the QuickBooks reports, reviewing deposits, and reviewing reimbursement forms for proper approvals (approximately one hour per session). Please contact Carla Self, treasurer, for more information and to volunteer (financial.sfemg@gmail.com or 903-744-0160). Thank you for your consideration.

In Memoriam: Luke Spangenburg

by Ellen Premack

The Santa Fe Community College and the entire city lost a very significant person last month, Mr. Luke Spangenburg. Most of you may not even recognize his name, but he did speak at the SFEMG 2019 graduation dinner. Some of us, including Tom Dominquez, Jamie Painter, and I, knew him through our efforts to form a partnership with the SFCC Biofuels Center of Excellence. As head of the School of Trades, Technology, Sustainability and Professional Studies, Luke brought to our attention many current and future problems. He was ahead of his time and devoted himself to teaching the work we need to do to make our neighborhoods, cities, states, countries, and the planet sustaining places for wildlife and humans.

Luke was prepared to do cross-collaborative programming, helping Master Gardeners to assess viable, future-focused learning in the areas of horticulture, ecology, and sustainability within SFCC-associated projects. Master Gardeners had so much to learn from Luke and his staff, topics we just weren't teaching in our classes. We had set up tours of the greenhouses to learn about new technologies and greenhouse sustainability, all thanks to Luke and his staff.

A nationally recognized leader in the algae and biofuels industry, Luke had active projects with the Department of Energy, National Renewable Energy Labs, Sandia National Lab, Los Alamos National Lab, and EPSCoR, among other collaborations. He was involved with the SFCC alternative fuels program since its beginning and continued develop new, cutting-edge programs. Starting in 2012 he directed the Biofuels Center of Excellence, which in 2015 was ranked the second-most significant educational program of its kind internationally. Luke also directed the SFCC Innovation Center, which created commercialization opportunities with businesses to establish new local economic development. He was the president of New Solutions Energy, a company dedicated to integrated bioenergy solutions and held two patents for algae cultivation methods and systems. Luke's knowledge of sustainable technologies, combined with his passion for the natural world and animals, motivated all of his work.

Our city has lost a tremendous asset and a kind human being who wanted to make all things better.

Shrubby Cinquefoil
(*Dasiphora fruticosa/Potentilla fruticosa*)

by Stephanie Burns

A native New Mexico rose also known as potentilla and golden hardhack, shrubby cinquefoil is a charming little shrub known for its bright yellow flowers throughout the summer and fall. Found along stream banks and in moist meadows and open slopes throughout ponderosa pine and spruce-fir forests, it grows best in cooler high-elevation gardens, i.e., above 6,000 feet. When planted in low-desert gardens, cinquefoil appreciates fall planting and shade. This densely foliated, intricately branched shrub provides food for birds and insects and nectar for butterflies.

Landscape use: Its long blooming season, profusion of flowers, and attractive green foliage make this shrub a useful addition to most any landscape, especially in perennial borders, under aspens, or as a low hedge. Given its preference for cool climates and intolerance of high heat, siting is key to longevity.

Planting and care: As with other native high-elevation roses, cinquefoil likes water and neutral or somewhat acidic soil, but it is very adaptable. Needs no fertilizing. In low-desert gardens, plants will benefit from an organic-matter mulch to better retain much-needed moisture as well as a shaded north or east exposure in runoff catchments or swales. Fall planting at lower elevations is also beneficial so plants can develop new roots before summer heat. For a tidier appearance, remove weathered stems. Spider mites can be troublesome in summer because of heat stress. Control these infestations by hosing foliage regularly. If severe infestations persist, consider relocating the plant to a cooler, wetter spot.

Propagation: Cinquefoil may be propagated via seeds or softwood cuttings.

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Shrubby Cinquefoil —cont. from page 6

Plant type: small shrub
Bloom time: summer to fall
Size: 3 feet x 3 feet
Sun: full sun, part shade
Soil: moist, well-draining; tolerates clay and limestone soils
Water: medium
USDA Zones: 3 to 7

References:

Lady Bird Johnson Wildflower Center, Dasiphora fruticosa
Littlefield, Larry J., and Pearl M Burns. *Wildflowers of the Northern and Central Mountains of New Mexico* (University of New Mexico, 2015)
Phillips, Judith. *New Mexico Gardener's Guide* (Cool Springs, 2004)
Phillips, Judith. *Plants for Natural Gardens* (Museum of New Mexico, 1995)
SNaPP, A Guide to Native Plants for the Santa Fe Landscape (2019)

Photo by Sarah Baldwin

We Are Here to Help!

If you have a gardening question, Santa Fe Master Gardeners are available to help. Go to our website, click on the Garden Questions? link, and pose your question. Someone will do research and get back to you.

NMSU Fall Webinar Series

NMSU Cooperative Extension Service is offering many garden-related webinars through the fall of 2020. All classes start at 3 p.m. unless otherwise noted. For more information and to register, click here.

Oct 01	Seed Saving and On-Farm Plant Breeding (NM Sustainable Agriculture series)
Oct 07	The Humble Herb (Ready, Set, Grow! series)
Oct 08	Strategies to Prevent Development and Spread of Herbicide-Resistant Weeds (NM Sustainable Agriculture series)
Oct 15	Beneficial Insect Identification and Habitat (NM Sustainable Agriculture series)
Oct 21	Seed-Saving for the Home Gardener (Ready, Set, Grow! series)
Oct 22	Growing Vegetables in NM (NM Sustainable Agriculture series)
Oct 27 & 28	Soil Health (two-day conference, 9 a.m.–3 p.m.)
Oct 29	Pruning Fruit Trees (NM Sustainable Agriculture series)
Nov 04	Selecting and Planting Trees in the Fall (Ready, Set, Grow! series)
Nov 05	Drip Irrigation for the Small Farm (NM Sustainable Agriculture series)
Nov 18	Winter Care for the Home Landscape (Ready, Set, Grow! series)
Dec 02	Gardening Gift Ideas (Ready, Set, Grow! series)
Dec 16	Hybrid Grapes, Hardwood Cuttings & Holiday Wine Pairings (Ready, Set, Grow! series)

Backyard Bugs

Spotted Tylosis (*Tylosis maculatus*)

by Pam Wolfe

Tylosis maculatus (15 mm) foraging on globemallow (*Sphaeralcea angustifolia*). Photo by Pam Wolfe.

As if dark spots on a red ground were not vivid enough, *Tylosis maculatus* has antennae half again as long as its body. Described by American entomologist John Lawrence LeConte in 1850, this Cerambycid (long-horned beetle) is in the tribe Trachyderini. The genus specializes on the mallow family; adults appear in July and August to mate and feed on and pollinate the flowers, while larvae feed on roots of the plant year-round.

According to the Museum of Southwestern Biology website, there are several similar appearing species in New Mexico. Texas entomologist Mike Quinn gives additional detail on the genus: there are eight species of *Tylosis*, ranging from Arizona to Texas and into northern Mexico. The Unit Tray from Texas A&M University's insect collection displays the wide variation in size and body patterns of *Tylosis maculatus*.

I feel very strongly in the sort of planting that I do, that you feel the changes all the time. It is a changing beauty: from beauty into beauty.

—Piet Oudolf

What's That Weed?

Dalmatian Toadflax (*Linaria dalmatica*)

by Pam Wolfe

Flower is two-lipped and yellow, with a long spur. Leaves are pale gren, succulent, alternate, clasping, and roughly heart-shaped. Photo by Pam Wolfe.

Dalmatian toadflax or wild snapdragon is listed as a Class A (not present or limited distribution) weed in Troublesome Weeds of New Mexico and is described as an "herbaceous perennial that invades disturbed areas." The genus name refers to the resemblance of its foliage to flax (*Linum*); the specific epithet is for one of its native ranges, Dalmatia, on the eastern shore of the Adriatic Sea. The plant is found throughout western Asia and southeastern Europe. It was introduced to North America in the late 19th century as an ornamental, for use in dyes, and as a medicinal (USDA national invasive species information center).

Listed as noxious in 5 states, the plant becomes an economic concern when it invades rangeland because it has no food value and crowds out forage; it also contains alkaloids that may be toxic to grazing animals.

Tap rooted, toadflax reproduces vegetatively and by seed production. Flowering from May through August, plants produce as many as 500,000 seeds, which remain viable in the soil for up to 10 years. Small infestations of this perennial member of the family Plantaginaceae can be hand pulled. Be sure to extract all the root material, as new shoots will resprout from lateral roots that remain. Management of large infestations is challenging. Prescribed burns only increase seed production in subsequent years and mowing is ineffective. However, both biological and chemical controls are available. See USDA technical note MT-3 for more detail.

New & Noteworthy

Have you recently read a plant-related article or book, visited a horticultural website or blog, listened to a podcast, or seen a nature show or documentary you think other gardeners would enjoy or find useful? Send a link to the newsletter (news.sfemg@gmail.com) and we'll include the information in the next issue. ***Note that some of these sources may have paywalls***.

Atlas Obscura, The Ancient Art of Harvesting Fruit in the Desert, by Chris Malloy

Atlas Obscura, Survivor Tree: Manhattan, New York

Botany One, Below-ground plant competition alters attractiveness to pollinators, by William Salter

Garden Professors, Saving for the Future: Seed Saving Tricks and Tips, by John Porter

Garden Rant, It's gardener vs. gardener season, by Elizabeth Licata

Huffington Post, The Soil Revolution That Could Save Farming and the Climate, by Alexander C. Kaufman

National Geographic, We couldn't have figs without wasps. Here's how mutualism works., by Liz Langley

Normal Biology, It's Hard to Be a Hornworm, by Derek Hennen

Santa Fe New Mexican, When the river dries, a struggle to stay afloat, by Scott Wyland

Science Daily, Forest margins may be more resilient to climate change than previously thought

Smithsonian Magazine, Can Scientists Stop the Plague of the Spotted Lanternfly?, by Jeff Macgregor

Southwest Yard & Garden, Leaf Color Changes Remind Us What We Already Know: It's Been a Long, Hard Summer… and Change Is Here, by Marisa Thompson

The Garden Journal Radio Show

Every Saturday 10–10:30 a.m.

Tune in to KSFR 101.1 FM on Saturday mornings from 10 to 10:30 to listen to a lively, entertaining, and informative gardening show.

Oct 03 SFEMG edition with host Christine Salem and guest Douglas Tallamy, author of *Nature's Best Hope*, on what we can do to provide an environment that supports our bird populations (repeat)

Oct 10 SFEMG edition with host Christine Salem and guest David Salman, of Waterwise Gardening, on planting bulbs in fall for spring color

Oct 17 Santa Fe Farmers Market Institute edition, with host Carrie Core, debuting a new program, "Soil Stories," with a focus on regenerative agriculture

Oct 24 SFEMG edition with host Christine Salem and guest Amy Halloran, author of *The New Bread Basket*, on the history of how mills and grain economies impact their communities and social capital, with examples of current grain revivals in the United States

Oct 31 Home Grown New Mexico edition with host Christine Salem and guest Jannine Cabossel, the Tomato Lady, offering tips and techniques for next month's veggie garden; more info a Giant Veggie Gardener

Schedule subject to change. To listen to previous broadcasts, click here.

Calendar of Events

Because of the COVID-19 crisis, SFEMG classes and face-to-face events through 2020 have been cancelled or postponed. Some classes may be held electronically. Please check the SFEMG website as well as the websites of other relevant organizations for updates on the status of events.

Mission Statement:
Santa Fe Extension Master Gardeners is a non-profit volunteer organization whose mission is to learn, teach, and promote locally sustainable gardening through reliable, current research-based practices