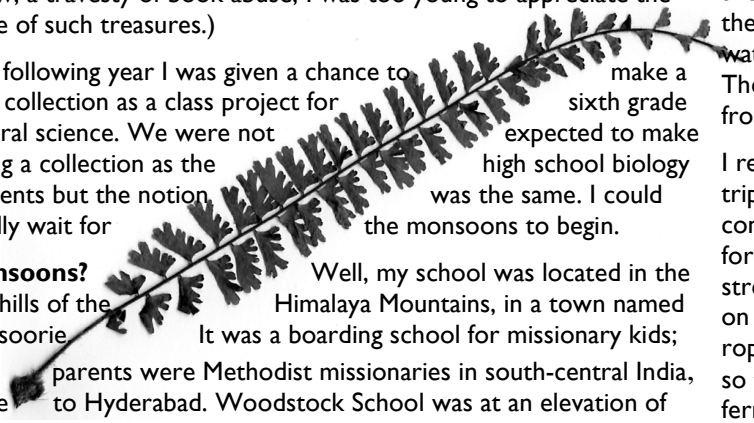
April's Speaker, David Wagner

Longevity in the Presidential office of the ENHS says something about the office holder. (This month's speaker has held the office for several years now.) The electorate is well-read and understands the issues, respects leadership that is knowledgeable in her/his field, and like all electorate, gravitates especially towards charm, appreciating humility. Over the top? If you know Dr. David Wagner, if you have joined with him on any field trips or workshops, you'll agree that he deserves reelection—oh, that's for next month. This month the ENHS is fortunate to have him for its speaker. I asked him just one question for this interview. Here's the question with his truly gravitating reply:

Frond Memories of the Tehri Hills

Q. How did you happen to become a botanist?

A. My life's commitment to studying plants began when I was ten years old. I was already a dedicated naturalist with special interests in snakes and butterflies. My older brother Stanley was taking biology in high school. His class had been assigned to make a collection of pressed ferns. I was interested in what he was doing, fascinated by the way he and his classmates talked about their search for rare ferns. I found an unusual fern on a big branch while climbing an oak tree and brought it to Stanley. He told me it was a grape fern, one of the rare ferns he was looking for and had not yet seen. It was a real prize. So I put it between the pages of one of the biggest volumes of our Enclycopaedia Brittanica and pressed it. (I know, a travesty of book abuse; I was too young to appreciate the value of such treasures.)



The following year I was given a chance to make a fern collection as a class project for sixth grade natural science. We were not expected to make as big a collection as the high school biology students but the notion was the same. I could hardly wait for the monsoons to begin.

Monsoons? Well, my school was located in the foothills of the Himalaya Mountains, in a town named Mussoorie. It was a boarding school for missionary kids; my parents were Methodist missionaries in south-central India, close to Hyderabad. Woodstock School was at an elevation of 7,000 feet, surrounded by forests teeming with life. My father's interest in natural history must have sparked my passion because I was collecting butterflies by seven or eight. He collected butterflies as a hobby, not unusual for a missionary in the 1940's and 1950's. The problem with butterflies was that they disappeared from the landscape when the monsoon rains came in late June. Beetles came out with the first rains so for a few weeks our attention was on beetle hunting. After a few weeks of good rains, the ferns were ready to collect. When the monsoons ended, the butterflies appeared again, often in a fall brood of different forms. Butterflies kept the naturalist's attention until the next monsoons. Such was the cycle of activity of the ardent natural history collector. I swung into that cycle in sixth grade. Mussoorie was a wonderful place for a young naturalist.

When I got to high school we had a new biology teacher. I was keen on telling her about the tradition at Woodstock of having the biology students make a collection of ferns. The standard was a collection of twenty five different kinds of ferns. I was very happy that she thought this was a good idea. Some of my classmates were not so happy. One day at lunch the girls accused me of lobbying for an unreasonable assignment. So on the way back from our cafeteria to the classroom building, I pointed out seventeen different kinds of ferns growing in the cracks of the rock walls lining the path. My ability and willingness to help with fern collecting had an unexpected side benefit. I garnered respect from girls who previously would just look past me. I wasn't just a geeky nature nut, I had knowledge that was useful. There followed a social feedback that involved my being more attentive to the girls too. I didn't stop being a geek but I became a popular geek, a role I enjoyed. That year I collected over ninety different kinds of ferns.

Fern study seemed like the pastime of dorks and geeks, and it more or less was. But getting the ferns to study was not without adventure and chance for strenuous exercise. Those of us who hunted for ferns (all three of us) often went to places other hikers never thought of going. We slid down steep, forested slopes and slipped over waterfalls to get access to ferny canyons. We climbed vertical cliffs without ropes or pitons. Although often exposed to danger, there was only one time I felt I was seriously in danger as a result of the pursuit of ferns. It was the one time we did use a rope.

Big Button; Small slit! The story of the rope:
The most exciting fern I found, when I was sixteen years old, was first seen from a path across the valley. It was growing at the top of a cliff that rose straight up from a rocky stream bed. A little scouting showed that the ferns were impossible to approach from the side of the valley where our path was. The stream was at monsoon high water, and even if I could cross it, the cliff overhung at the bottom. There was no way to climb up to the ferns. I'd have to come down from the other side.

I recruited two friends, Dean and James, to help me. It was a full day trip since the site was a fifteen mile hike each way. With considerable effort, at the end making our way through untracked forest, we found ourselves above the canyon on the side of the stream with the cliff full of ferns. Dean and James planted themselves on the uphill side of a tree just above the cliff. We had brought a rope, little more than a clothes line, which we tied around my waist so they could lower me over the lip of the cliff down to where the ferns were. Such a clever plan!

I would be secured from above while getting to the biggest and best of the ferns. It worked beautifully. They lowered me slowly over the cliff. Leaning back against the rope and walking backwards with my body nearly horizontal, I soon had a collecting bag full of ferns. But the top of the cliff wasn't solid rock, it had a lip of soil bound together with roots. In my swaying back and forth collecting ferns, the rope had cut into the lip that overhung the cliff. I called out to my buddies to pull me up. When they pulled on the rope, it cut deeper into the dirt at the top of the cliff and pinned me underneath the lip. I was stuck!! I yelled at them to stop, slack off, and release me. I was a big button trying to get pulled through too small a button slit.

What to do??!?? The rope wasn't long enough for them to lower me to the bottom of the cliff. And in any case, we had no idea if I could get out of the canyon—if I didn't drown.

April's Speaker, David Wagner

The rope was cutting into their hands; it was cutting me in half—time for desperation. I planted my feet on the cliff face and with both hands jerked the rope a little bit out of the slot it had cut. Dean and James pulled me up just a bit. We did that over and over again. I can't remember much about how I got up because I didn't spare any energy to think, just heave and gasp and try to keep my hands from getting jammed in the slot under the taut rope. Finally I was able to reach over the lip and grasp the rope above where it had sawn the groove. A little more heaving and puffing and Dean could grab my arm and pull me to safety. Whew!

I wouldn't do that again. But we scored the only record of *Drynaria propinqua* from the Tehri Hills. And it was that experience of discovering something new that led me into botany. In all my years in India, until graduating from high school, I never caught a butterfly the British hadn't reported before me. My explorations for ferns, on the other hand, regularly turned up specimens nobody in the area had found before, even some that seemed likely new to science. It was the prospect of discovery that led me into botany. David Wagner

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David Wagner: B.A. (1968), Biology, Chemistry and Geology, University of Puget Sound, Tacoma; M.S. (1974), Ph.D. (1976), Botany, Washington State University, Pullman.

President, Northwest Botanical Institute.

Teacher/Mentor in the classroom and the field for over thirty-five years.

Associate Professor of Biology (Courtesy) at University of Oregon.

Herbarium Research Associate at both OSU and UC Berkeley.

Director of the UO Herbarium, 1976-1993.

Coauthor of the regional standard, "Guide for the Identification of Rare, Threatened, or Sensitive Bryophytes."

Specialty: ferns, mosses, and liverworts. Dave is creating and is about to offer in electronic format (published on CD) a liverwort flora of Oregon, "Guide to the Liverworts of Oregon." The illustrations, over 1000, mostly taken through a microscope, will fascinate even those of us who only recognize the annoying liverworts suffocating our seedlings in outdoor flowerpots. This has been in the works for over 25 years. Editor

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Curry, Crafts and Comics, The Other David:

It may come as no surprise to many of you that David Wagner would eat curry every night of the week if his wife Connie would let him. If he's the chef *du jour*, he can make a tasty curry from just about anything you might bring him? In fact, David often expresses a desire to teach a culinary botany class in which all the plant specimens used in class end up in a fabulous curry feast.

And did you know that David's artistic talents and interests include paper making, bonsai, clay sculpture, wood carving, stone carving, pen and ink drawing, linoleum cutting, stamp collecting, furniture making the blues, calendar making, prose, poetry, and world religions to name a few? David reads the comics first every morning, and has a huge collection of comic strips worthy of their own o special binder.

Anonymous but trusted source

Cover drawing and fern photos by David Wagner:
Cover, bee at a waterleaf
Page 2, *Adiantum caudatum,* called the walking fern because it roots at the tip.
p.3, *Oleandra wallichii,* called Oleander—A rare fern I found in the biggest patches ever.

Fish Stories

The decision to close seven hundred miles of West Coast waters to commercial salmon fishing came as a shock to me in spite of the fact that over the winter I have been reading so much about threatened species and dying fisheries. In January a group of Canadian scientists led by Jennifer Devine reported in *Nature* that five species of deepwater fishes, grenadiers, hakes, skates and a spiny eel are being taken, either commercially, or as "by catch" in the Greenland halibut and redfish fisheries, in such numbers that they will be extinct in three more of their generations, or thirty years. Deep sea fish species have not been considered for endangered fish listings because so little is known about them, and until recent advances in fishing technology, few were caught. But because deep sea fish grow slowly, mature late and have low reproductive rates, heavy harvesting of these benthic (occurring in the depths of the ocean) species can lead to population crashes in only a decade.

The Ocean Conservancy reports on species in peril in its quarterly journal *Blue Planet*. Humanity's destruction of a resource that was once supposed to be the source of limitless protein for mankind is the result of over harvest and of harvest methods that destroy habitat. Ocean trawling scours the ocean bottom, destroying the structure of the sea floor, the corals and rock formations that supply food and shelter for the youngest and smallest fish. The destruction of the cod fishery in Europe and America is a horror story, still hard to accept. In the Winter-Spring 2006 issue *of Blue Planet*, an article by Andrew Myers, "Will the Class of 2003 Save the Cod?" gives some very scary predictions and a very clear explanation of how over-fishing can occur even in a regulated industry. Canada has had a moratorium on cod fishing in its waters for fourteen years and the cod have not recovered. The fishery is dead.

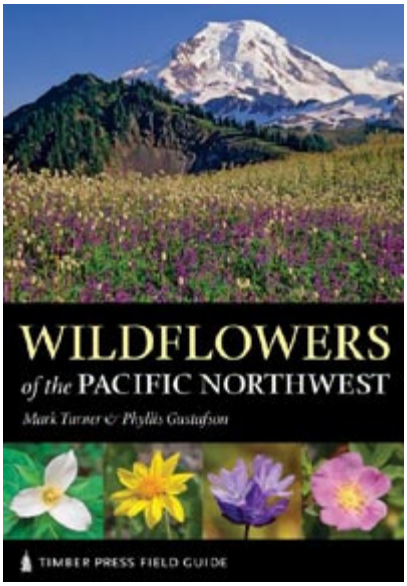
There are still cod and cod fishers in New England taking fish off the Georges Bank and in the Gulf of Maine, but scientists estimate that the cod population has decreased by twenty to twenty-five per cent in the last four years. This is a decrease from already historically low population numbers—yet the catch is three times larger than the recommended target. How can this be, that scientists find significant population decreases and the fishermen find lots of fish? The answer seems to be that the fish are concentrating, hyperaggregating, in the inshore waters of the Gulf of Maine and the Georges Banks. From the outer Georges Banks to the southern waters off New Jersey, scientists from the Northeast Fisheries Science Center found virtually no cod. The fishers go where the cod still live and fish as heavily as the law allows, and the law has a dangerous loophole. Commercial boats are allowed a number of days at sea, about fifty-two. But fishers can make as many trips on those days at sea as they can fit into the twenty-four hour period. Thus a dedicated crew can take the eight hundred pound limit of cod three or four times in a single day. Laws concerning mesh size let the smallest cod slip out but catch the big fish, the ones that produce the most eggs, the very ones that should not be caught. Because 2003 was a very successful spawning year for cod, there is hope that populations can recover, but this will not happen without new rules reducing the allowable catch size. Sadly, the New England Fisheries Management Council plans to double the target catch for cod in 2007. Perhaps the only way to save the overexploited denizens of the planet's oceans is to create extensive marine reserves.

As the Gulf of Maine and the Georges Banks are the only place in our hemisphere where cod populations appear healthy, these areas should be closed to fishing and the fishers compensated for their loss. Reserves really do work! Fish reproduce and mature free from human predation, and young fish move out from the reserves to populate other areas. A study, reported in *Science*, 6 January, 2006, of a Caribbean marine reserve where fishing was banned in 1986, shows that all the species in the reserve were thriving, the large predatory Nassau Grouper that the reserve was designed to protect, and also its prey, various parrotfish species that perform the vital function of cleaning algae off the coral.

I hope that making areas of West Coast waters off limits to fishing will help the salmon, but it is not enough. Policy makers must recognize that salmon need pristine breeding habitat too. What is needed for salmon is the creation of inland fresh water reserves free, from logging and highway pollution.

Reida Kimmel

A Picture-Packed Wildflower Field Guide for the PNW



For nature enthusiasts who love to know the names of the wildflowers they encounter from southern British Columbia to the Klamath-Siskiyou region of Southern Oregon and Northern California, there's a new field guide out that supplements bringing along, usually at least 3 wildflower books, often making identification slow, not to mention the heavy backpack or roadside juggling act. Hitchcock and Jepson will still be the definitive, comprehensive guides, but botanists and natural history buffs alike, who love to botanize, will want a copy of *Wildflowers of the Pacific Northwest (WPN)* with photographs by Mark Turner and plant descriptions by Phyllis Gustafson, a Timber Press Field Guide. It offers a thorough, one-book coverage of the areas most of us hike and drive, including the diverse Eastside.

WPN describes 1220 perennial and annual species, including some shrubs with significant flowers. For most entries Phyllis details flower and leaf size and shape, as well as color irregularities, flowering season, specific habitat and native status. Both a photograph of the flower, and a map showing the growing region by county, accompany each entry. Confronted with selecting from the abundance of wildflowers in the geographic region covered, the authors state that they "chose the showier species at the expense of plants with small and nearly insignificant flowers."

Before the individual flower entries (three to a page) begin, pages 13 through 56 offer more than the usual in the way of introductory information. Besides chapters on "How to Use This Book" and "Exploring for Wildflowers," the authors give must-read descriptions in the chapter, "Climate, Geography, and Plant Habitats." The numerous landscape pictures in this section are stunning! It's hard not to be impressed with the photographs throughout the book, fine in detail and accurate in color, a paean to Mark's botanical knowledge, photographic expertise and perhaps, most importantly, his tenacity.

All field guides come with inherent organizational dilemmas. Mark and Phyllis have chosen to organize their wildflower selections by color, then flower petals, and finally alphabetically by family and genus within each flower petal category. Many of us amateur botanizers have learned to identify some families and look for characteristics of familiar genera when identifying flowers. Looking first at color may seem a little backwards, but isn't that how we first describe the flower to our botanist friends: "Oh, I saw this incredible blue flower today?"

In my backyard I actively used the guidebook to see how easily I could identify some familiar wildflowers. *Cardamine nuttallii* var. *nuttallii* was easy with its pink color and four petals. (And without the book I would have continued to call it *C. pulcherrima*.) I had little trouble identifying several other local wildflowers. However, using the Guide as a reference, perhaps to learn a flower's color, requires the use of the index. Both the Latin and selected common names appear together alphabetically. The authors had to be selective as to which common names to use. There could be considerable frustration at times. For example: Whether my bluebells are a *Mertensia* or a *Campanula*, I won't find "bluebells" as an entry in the index unless I look for "broadleaf bluebells" (*M. ciliata*) or "Scouler's bluebells" (*C. scouleri*). The same is true for forget-me-nots. One must know "meadow forget-me-not" (*Hackelia micrantha*) or "small flowered forget-me-not" (*Myosotis laxa*), not just forget-me-not.

Mark and Phyllis received guidance from their numerous contacts in the scientific community as well as utilized over 80 books, scholarly articles and scientific databases both off and on the Net to insure as much botanical accuracy as possible. The very few discrepancies have more to do with sexual behavior than with names. They are minute in comparison to the knowledge and guidance the book offers. It belongs in all of our backpacks or automobiles when botanizing in the Pacific Northwest. Thank-you Phyllis and Mark, members of Oregon Native Plant Society.

Melody Clarkson