

**THE BOTANICAL TEACHING LEGACY
OF EDWARD G. VOSS AT
THE UNIVERSITY OF MICHIGAN BIOLOGICAL STATION**

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The end of May marked Ed Voss' annual trip to northern Michigan—his botanical getaway since well before he became Professor of Biology and Curator at the University of Michigan, Ann Arbor. This locale fortuitously provided his inspiration for decades of pioneering research on the Michigan flora. His grandfather had acquired their cabin on the Straits of Mackinac in 1930 to avoid hay fever in their hometown of Dayton, Ohio. In September of that year, at the age of one, Ed spent his first night along the Straits (Voss 2008). It was here in northern Michigan that Ed established a lasting legacy from the many lives he touched in the classroom, and field, at the University of Michigan Biological Station (UMBS).

Ed became a faculty member at UMBS in 1963 and taught four courses during his tenure: Systematic Botany (1967–1969, 1971–1974), Boreal Flora (1967–1974, 1976–1994) (Fig. 14), Aquatic Flowering Plants (1963–1969; 1971; 1991), and Field Botany of Northern Michigan (1995–1998; 2003). From 1963–2003, he would miss only five summer sessions at UMBS. Ed treasured his time at UMBS. As he once noted, “UMBS is a place you cannot stay away from!”

Ed taught his students with an enthusiasm that was legendary. It was peppered with exclamations and tempered with precision to help students understand the challenges, nuances, joys, and importance of botany. For example, on a class field trip in 1995, Ed remarked with irritation about a motel named “The Birches” that was surrounded by aspen. He curtly observed to the class that, “There is a lot of botanical ignorance out there!” It was this dedication to the appreciation of the natural world, and of its accurate depiction, that were cornerstones of his teaching. The many students he inspired have become land managers, park rangers, policy makers, doctors, lawyers, professors, and of course, well informed citizens of the botanical world (Fig. 14).

As we reflect on our experiences of Ed in the classroom and the field we are struck by some of the traits that made Ed such a singular and inspiring botanical educator.



FIGURE 14. Ed Voss in 1974 with his Boreal Flora class. Photo UMBS archives.

Ed was undaunted by field conditions. Lightning, heat, rain, wind, and least of all, mosquitoes, were no match for Ed. His sole focus was discovering and teaching plants, with total disregard to environmental conditions that surrounded him or his students. For example, when teaching the beautiful and diminutive orchid *Malaxis unifolia* Michx. at Ryerse Lake in the Upper Peninsula (on years when it could be found!), students would giggle as Ed was undeterred, and utterly enraptured, despite the mosquito sucking blood from his eyelid. Each new discovery was a treasure for him, despite having seen these old friends many, many times over the decades. His enthusiasm never dulled, and it was this infectious excitement that motivated us all (Fig. 15).

The only thing with the power to sway Ed from his botanical bliss was his stomach. Despite his svelte physique, Ed was a voracious predator. Lunch or dinner was never skipped. And he was notorious for taking heaping first and second helpings at the dinner line, and rarely made conversation while at his favorite table. We suspect he felt that such discussions would get in the way of satisfying his enormous appetite.

Ed loved sharing the beauty of the Great Lakes region. Ed took great pride in the beautiful places that he scheduled for the course. They included Grass Bay (Cheboygan County) where students could traverse the upland mesic forest down to the interdunal swales along the shore of Lake Huron; the mouth of the Two Hearted River where students could stand atop a massive sand dune and look to one side and see the vast open water of Lake Superior and the tannin rich color of the river on the other; the old growth beech-maple-hemlock forests of the Headlands near Mackinaw City; and of course the unforgettable bogs and

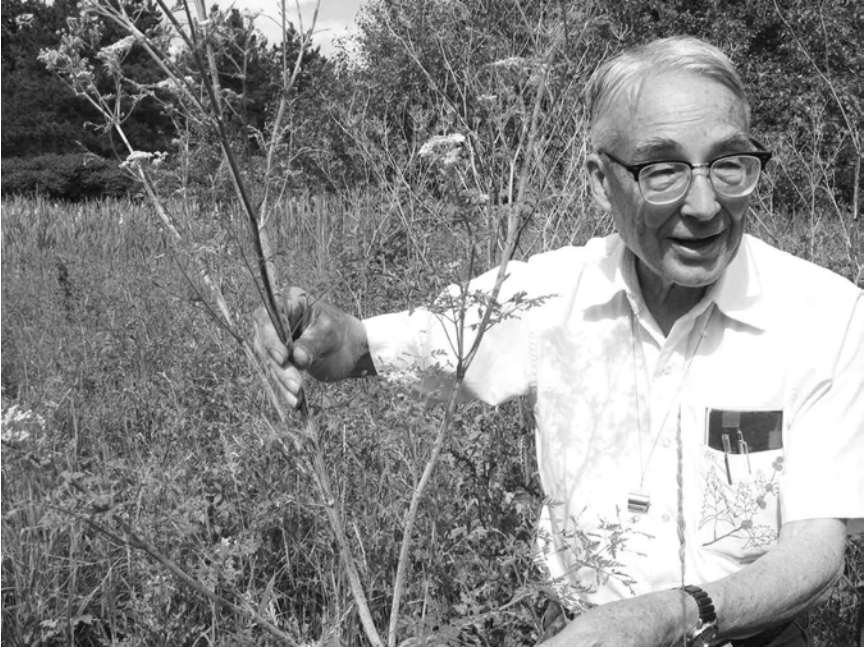


FIGURE 15. Ed Voss gleefully holding up Poison hemlock (*Conium maculatum*) while teaching. Photo by C. Mom.

fens of the Upper Peninsula (Fig. 16). Each of these habitats held a treasure trove of plants that were unique to that site, and it was the combination of these plants that elucidated the ecological context of these unforgettable landscapes.

When it came to spectacular locations, Boreal Flora students were fortunate to experience a truly remarkable botanical excursion: the Canadian shore of Lake Superior. For many “BoFlo” students, the Canada trip was the highlight of the summer. Driving a procession of tightly packed vans, the class ventured across the border synchronized to Ed’s precise itinerary. Although the logistics of the trip could cause Ed anxiety, there was no doubt that this was the highlight of his year. Ed’s love of northern floras, plant geography, geology, and history were epitomized along to the panoramic backdrop of Lake Superior.

In addition to these many beautiful places, Ed also enjoyed waste ground sites, or ‘stump dumps’ as he affectionately called them. These sites were not easy to appreciate in part because, as Ed noted, waste grounds could be “as hot as a pancake griddle”, but there was great wisdom in these choices. To Ed, these sites served two purposes. First, they provided abundant material for teaching a great variety of floral and vegetative forms, which was ideal for introductory students of plant diversity. Second, they helped to recreate the kind of destruction and openness that resembled the post-glacial landscapes, so prominent in the origination of Michigan’s flora. He was apt to remind students that the ~2,800 species of Michigan’s land plants had arrived there only within the last ~12,000



FIGURE 16. Ed Voss teaching on the bog mat at Ryerse Lake in the Upper Peninsula. Photo by C. Davis.

years. It was in this context that he delivered lectures about how invasives, both natives and non-natives, often found their way onto new landscapes. It was an incredibly effective, and brilliant teaching tool. Not to mention that many of his favorite plants—natives especially—could only be found in these environs (Fig. 17). The choice species of the waste ground of the Mackinaw City vicinity included Strawberry Blite (*Chenopodium capitatum* (L.) Ambrosi), *Leucophysalis grandiflora* (Hooker) Rydb., Pink Corydalis (*Corydalis sempervirens* (L.) Pers., now known as *Capnoides sempervirens* (L.) Borkh.), and Golden Corydalis (*Corydalis aurea* Willd.). He would spend hours scouting for these species long after he retired from teaching. Each summer Ed would revel in rediscovering these unpredictable species in his favorite vacant lots and gravel pits.

Ed was meticulously organized. Taxonomists like Ed are often guilty of being overly tidy, and Ed was no different. For every class he was prepared with a well-worn manila envelope containing relevant maps and other documents, hand lens on sturdy upholster's cord (Fig. 18), rock pick in a belt loop of his trousers, and appropriate footwear (e.g., soccer cleats for wetlands) (Fig. 19). Many will remember his carefully curated plant, insect, and book collections, but a hallmark of Ed's organization was exemplified by his field notes placed neatly inside a small aluminum sided jacket. These notes were always typed on the clean side of scrap paper that were cut to fit his notebook precisely (Fig. 20).

These cards served several purposes including expected, but yet undiscovered, county records for Michigan. Whenever there was an obvious gap in these records, Ed was quite pleased to find the undocumented species in question no matter how common or nondescript. These notes helped to produce glorious maps of species' range distributions of Michigan, which were the basis of his classroom discussions of plant biogeography and the maps in the *Michigan Flora* volumes (Voss 1972, 1985, 1996).

Ed was quite fond of the numerous distantly related species whose distributions were found primarily in western North America, but were (strangely) also



FIGURE 17. Ed Voss at a waste ground site on the Darrow property near Mackinaw City teaching Golden Corydalis, *Corydalis aurea*. Photo by C. E. Hellquist.



FIGURE 18. Ed Voss in 1984 examining a specimen with his hand lens. Photo: UMBS archives

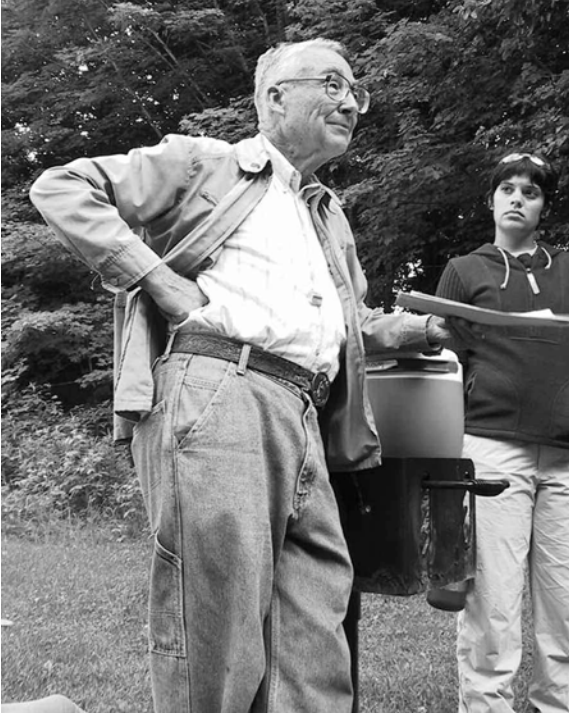


FIGURE 19. EGV teaching one of his last lectures in 2003 near Pictured Rocks National Lakeshore. Photo by C. Davis.



FIGURE 20. EGV with his aluminum sided notepad on the Bruce Peninsula, Ontario, Canada. Photo by C. Davis.

represented far from their center of diversity to include the Great Lakes region. It was a fascinating topic on which he produced an excellent summary (Marquis and Voss 1981), co-authored with one of his former students, Robert Marquis, now a Professor of Ecology at the University of Missouri, St. Louis.

One of the most curious western disjuncts is *Pterospora andromedea* Nutt., an unusual mycoheterotroph found occasionally along the shores of the Great Lakes. It was on a scouting trip for this plant near Pte. aux Chenes in the Upper Peninsula that another important use of Ed's note cards became apparent—direction finding. Ed typed the directions (to the tenth of a mile) to find *Pterospora*. These directions included the obvious, but also the number of telephone poles to pass along the way, as well as the local botanical landmarks to find the spot. It was truly remarkable, and led perfectly to the site that had not been visited for at least a decade. Today, botany students visit many of the same sites (and plants) that Ed vigilantly recorded in his notes season after season.

Ed was the “Program Director” of “Plant TV.” Although Ed was not the originator of “Plant TV”, which traced back to a student of Professor Elzada Clover in 1966 (Voss 2008), he became synonymous with its development and use as a study aid. While in the field with students, Ed or his teaching assistant (TA) would carefully collect a representative of each plant for display in glass cases behind LaRue Library and later Gates Lecture Hall. Occasionally, he would circulate the plant for closer inspection before carefully resting it in the vasculum (“Into captivity!”, as he would gleefully exclaim). On one occasion, while passing around the delicate Enchanter’s nightshade (*Circaea alpina* L.), he warned the students, “Don’t squeeze the pipes!” Suffice to say, Ed was very pro-



FIGURE 21. Plant specimens being prepared for “Plant TV”. Note Poison-ivy in beer bottle. UMBS archives.



FIGURE 22. Students study Plant TV at night. Photo by M. Petru.

tective of these displays. At the end of each field trip, only Ed and the TA were allowed to unpack the plants from the vasculum, place them carefully into water bottles, and transfer them to plant TV with their proper typewritten name card (Fig. 21). Once in plant TV, no student was allowed to touch any of the plants, or even open the door to plant TV. Ever! Prior to quizzes and exams, students would set up camp at plant TV, often staring into the glow of the fluorescent lights late into the evening, creating mnemonics to remember each family and scientific name (Fig. 22). Who among his students could ever forget that Poison-ivy, *Toxicodendron radicans* (L.) Kuntze (now *T. rydbergii* (Rydb.) Greene), was the only plant in plant TV stored in a brown beer bottle (Fig. 21), and always appeared as unlucky #13 on the first quiz? Lucky #13 still appears on quizzes every year as a tribute to Ed.

Ed was a botanical monk. Ed did not suffer inexactitudes lightly. We remember an unknowing student commenting on the value of common names, to which Ed replied without hesitation, “Common names are for common people!” We confess to having used this expression many, many times in our own teaching (always crediting Ed, of course). It would be easy to interpret this as malicious, but that was never Ed’s intent. And despite what many people thought, he was more aware of his manner than we expected. When teaching *Rubus parviflorus* Nutt., for example, he offered about its fruits—“People say they are too tart, but I have a tart tongue anyway.” We came to appreciate that Ed had a somewhat monastic vision of learning and teaching plants. There was one way, and he saw the path clearly. Any deflection from that path—be it rain, “dreadful” deer-



FIGURE 23: Ed Voss in a scene repeated virtually every summer, leading students from the 1994 Boreal Flora class along the crest of the dunes near the “ghost forest,” Grand Sable Dunes, Pictured Rocks National Lakeshore. Photo C. E. Hellquist

flies, delays while filing into the vans—was just that. His job was to get his students back on the path as quickly as possible to get on with the task at hand. When in the field, it was time to learn, study, and appreciate the plants and ecosystems of Michigan.

A final lasting lesson from Ed. Ed always finished the semester with one of the most meticulously worded, detailed exams any student had experienced. The exam always began with the instructions to follow the directions carefully (with an ‘!’ for emphasis). The second part of the exam was a “spot quiz” of 100 representative plants from the course. The installation of this quiz was so large it could not be contained within Gates Lab, and spilled onto the dining hall tables. The final exam marked a transformation of sorts for most students—a transformation that is only characterized by the best biodiversity courses.

Ed’s passion for botany and Michigan resonated with his students. Few teachers, for example, receive hand-stitched embroidered field shirts from their classes year after year (Figs. 15, 24). Of these cherished personal gifts Ed wrote (2008), “. . . one of my most-appreciated mementos of my teaching days is a series of shirts, personally embroidered for me with a depiction of some plant of particular interest to the class.” The tradition began in 1977 with dwarf lake iris (*Iris lacustris* Nutt.) and was followed by 13 additional shirts stitched with notable species (Voss 2008) including Sand Dune Thistle (*Cirsium pitcheri* (Torr.) Torr. & A. Gray), Thimbleberry (*Rubus parviflorus* Nutt.), Lake Huron Tansy (*Tanacetum bipinnatum* (L.) Sch. Bip. *subsp. huronense* (Nutt.) Breitung),



FIGURE 24. The back of one of Ed's many embroidered gift shirts. Photo by C. Mom.

American White Waterlily (*Nymphaea odorata* Aiton), and *Chenopodium capitatum* (L.) Ambrosi.

Ed kept a record of every student he taught at UMBS (nearly 400), many with whom he maintained correspondence throughout the years (Voss 2008). Under his direction and mentorship, Ed helped these students make sense of the greenery around them, providing the keys to unlock the natural world (see Fig. 7). For many, including us, classes with Ed opened an entirely new dimension of wonder and discovery (Fig. 23). His instruction offered one of the most important lessons that a beginning student of evolution and ecology can learn, which is paraphrased so succinctly in the Chinese proverb: "Wisdom begins by calling things by their right names." Ed would often reflect this proverb in variations of "You can't understand the play unless you know the characters." Finally, Ed's students always came to understand that sound conservation began with sound taxonomy of the species of his beloved Great Lakes region. As Ed taught us, this is also the gateway to becoming an informed steward of our planet and the appreciation that we are but one small leaf on this grand Tree of Life (Fig. 24).

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