EDWARD O. WILSON

LETTERS TO A YOUNG SCIENTIST
Six years before the discovery of the archetypical ant *Martialis* in the Amazon forest, a major effort had begun by entomologists to work out the family tree, more technically called the branching phylogeny, of all the living ants. Therein lies yet another chapter of my story especially relevant to you. In 1997 I had finally retired from the Harvard faculty and stopped accepting new Ph.D. students. Nevertheless, in 2003, the chairman of the Graduate Committee of the Department of Organismic and Evolutionary Biology called one day and said to me, “Ed, we’ve already accepted our quota of new students for this year, but we’ve got one more, a young woman so unusual and promising that we’ll add her on if you’ll agree to be her de facto sponsor and supervisor. She’s a fanatic on ants, wants to study them above all else. And she has tattoos of ants on her body to prove it.”
Dedication like that I admire, and after looking at her record I saw that Harvard was ideal for her. And she, it seemed, would be ideal for Harvard. I recommended that Corrie Saux (later Corrie Saux Moreau) from New Orleans be forthrightly admitted. When she appeared I knew we had made the right decision. She breezed through the first-year basic requirements. By the end of the year she already had a clear idea of what she wished to do for her Ph.D. thesis. Three leading experts on ant classification, each in different research institutions, had just received a multimillion-dollar federal grant to construct a family tree of all the major groups of ants in the world, based on DNA sequencing—the ultimate technique for the job. It was an important but formidable undertaking that, if successful, would undergird studies on the classification, ecology, and other biological investigations of all of the world’s sixteen thousand known ant species. Also, understanding the ants, many of the specialists realized, means learning a great deal more about Earth’s terrestrial ecosystems.

Saux suggested that she write the three lead researchers for permission to decode one of the smaller taxonomic divisions of the ants (one out of the twenty-one in all). I said, yes, it would be an achievement worth a degree if she could manage it, and a good way to meet other experts and work with them.
Soon afterward, however, she came back to tell me that the project leaders had turned her down. They were disinclined to add a new, untested graduate student to the team. From my own student days, I had learned to have a tough skin, not to accept a no as a personal rejection. With that in mind, I said, “Okay, don’t let that get you down. What the project leaders decided isn’t a bad thing. Why don’t you pick something else that you’d like to do?”

A few days later she came back and said, “Professor Wilson, I’ve been thinking, and I believe I could do the whole project myself.” I said, “The whole project?” She responded with demure sincerity, “Yes, all twenty-one of the subfamilies, all the ants. I think I can do it.”

Corrie then added that the world-class collection at Harvard was a great advantage. All she needed, she said, was a postdoctoral assistant who had specialized in DNA sequencing. She knew one who was willing to take the job. Might I supply the money for his salary? After a pause, I said impulsively, more out of instinct than logical reflection, “Well, okay.”

There was no bravado in Corrie, no trace of overweening pride, no pretension. She was a quiet, serene enthusiast. As it turned out, she was also an open, helpful friend to fellow students and others around her. She’d come from New Orleans by way of San Francisco State University, and I took pride in
her as a fellow southerner. I wanted her to succeed, and while I did not join as a collaborator, I found the funds to set up her laboratory. And why not? An effort like this celebrates imagination, hope, and audacity. And there was a fallback position for Corrie: if she fell short of the whole, she could use the part completed as a thesis. I even helped, a little, on the side. When I visited the Florida Keys on another project during the months that followed, I collected live ants of the genus *Xenomyrmex* for her, filling in a group difficult to obtain in the field. Along the way, she told me she needed to consult with an expert on some complex methods in statistical inference. I funded that also.

At this point I was determined to see Corrie Saux to the end. I felt that she could actually accomplish what she envisioned.

Her thesis was finished in 2007, read closely by her Ph.D. committee, and approved. On April 7, 2006, the core of her study was published as the cover article in *Science*, an achievement that would be considered exceptional even for a senior researcher. I admit I was nevertheless a bit tense when Corrie’s thesis went to the Harvard committee for review.

Then I learned that the three-person team with the larger grant had also finished their work and planned to publish the results later in the year, allowing history to record that the two studies had
been conducted independently and simultaneously. Of this I warmly approved, especially since each of the three was a highly regarded scientist. But it also meant that Corrie Saux’s research was about to be thoroughly tested. What if the two phylogenies didn’t match? That was a scenario I didn’t want to think about.

To my great relief, however, the two phylogenies matched almost perfectly. There was a difference in the placement of one of the twenty-one subfamilies, the leptanilline ants, an obscure and little-known group. Even that variance in interpretation was later worked out through more data and statistical analysis.

The story of Corrie Saux Moreau’s ambitious undertaking is one I feel especially important to bring to you. It suggests that courage in science born of self-confidence (without arrogance!), a willingness to take a risk but with resilience, a lack of fear of authority, a set of mind that prepares you to take a new direction if thwarted, are of great value—win or lose. One of my favorite maxims is from Floyd Patterson, the light heavyweight boxer who defeated heavier men to win and for a while hold the heavyweight championship. “You try the impossible to achieve the unusual.”