

Mending the Web of Life

INTERVIEW WITH ELIZABETH CALL

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Many people in Oriental thought, be it medicine, *qigong* or martial arts, honor tradition. That is fine; we should honor the past, but we don't want to get stuck there. Studying the classics should be a requirement for acupuncturists, but exploring how to apply our time-honored wisdom to the present and future should become a passion.

Elizabeth Call is part of a growing new breed of practitioners who envision Oriental medicine as dynamic, changing and evolving. In her book, *Mending the Web of Life*, she looks at the conservation of species in not only a limited context of individual species, but also the interconnections with their community and ecosystem, and examining from a global perspective how they are influenced by national and international laws. With 27,000 species going extinct each year, we are in the middle of the largest extinction ever. Something needs to be done.

Q: How aware do you feel the Chinese medical community is of the need for global conservation of animals and plants used in TCM?

A: Overall, I think that most practitioners know that tigers and rhinos are endangered, but have little knowledge of the other species whose survival is jeopardized. It seems that the community doesn't think about it that much and if so, they aren't sure what they personally can do about it. This is why I set out to put together the book - to educate our community about the loss of species used in Chinese medicine, help empower us as a profession to expand our education to include conservation, and change our thinking as well as our usage habits.

Q: I picture illegal poaching as the biggest challenge to species survival. How does that compare with loss of habitat and the destruction of the ecosystems on populations?

A: While habitat destruction plays a role in medicinal species loss, poaching also plays a big role. Trying to determine the impact of either on a particular species can be difficult, since the exact numbers of a particular species can be hard to determine. This is particularly true of plants because, to my knowledge, no one is doing any range-wide counts of plant species (much like the yearly bird counts that the Audubon Society conducts using local people).

Having said that, I think it is important to note that there are tiger reserves in India where the habitat is there, but no tigers are left, due to poaching. In some reserves in India, the situation has become so bad that wardens are instructed to kill poachers on sight!

In reserves in Africa, poaching was such a problem in the 1990s that rhinos were dehorned, in the hope that poachers would pass them by as not worth killing. The poachers ended up killing the rhinos anyway; presumably to reduce the number of animals they wasted time tracking. So, for both tigers and rhinos, poaching has had a huge impact.

Poaching has also been directly related to the extremely rapid decline of the saiga antelope over the last 15 years or so. In this case, a conservation group unwittingly promoted the saiga horn as a

replacement for rhino horn, and the poachers followed the money, undermining years of careful policy-making and stewardship in local communities to conserve this animal.

So, whether habitat loss or poaching has the biggest effect depends on the species and the commercial value it has in trade. I also see a relationship between habitat loss and poaching because when a species' habitat shrinks, it will come in contact with more humans, which will make it more vulnerable to poaching.

Q: Is reluctance to change stronger in China than in other parts of the world?

A: I haven't been to China, so I don't know. But I don't think the Chinese are any more resistant to change than are North Americans. In the U.S., we love driving everywhere and buying lots of cheap stuff from China. The U.S. is very reluctant to change, too. I think it all depends on what needs to be changed and how entrenched the behavior is.

Leaders in China don't want to change bear farming, for example, probably any more than U.S. leaders want to sign the Kyoto Agreement. The bottom line is we *all* have to change. Our familiar patterns of consumption just aren't working. We need to change what we consume and how we consume it, from medicinal species to energy to food. We need to rethink how we live so that we reduce our total impact on the Earth both locally and globally. If each of us changes four or five things that have a negative impact on the environment each year, we could have a very big impact on biodiversity, the climate and our own pockets.

So, in our profession, if each practitioner worldwide replaces all of the endangered species they presently use, these actions would change the outcome for these species. As individuals, we have more power to change our world than we think. It is the small and simple things we do every day that accomplish great things.

Q: Are there enough regulatory agencies enforcing the protection of animals and herbs?

A: I don't think it is necessarily a question of more regulatory agencies enforcing species protection. It's a question of range states having the political will and resources to enforce their own laws and international agreements and to provide appropriate oversight to wildlife trade. The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) works to ensure that international trade does not threaten the survival of wild animal and plant specimens. CITES is a voluntary agreement between nations regarding trade in wild species. However, some do criticize CITES pro-trade stance and point out that agreements that support conservation in ways other than market forces are also needed.

Some people believe that the way to conserve a plant or animal is to trade it - that market forces create an incentive to conserve wildlife. These market forces then usually lead to captive breeding or farming a species in an attempt to displace the wild trade. But market forces alone cannot displace illegal trade. There must also be appropriate management and supervision of that trade. As one conservationist put it, "Giving wildlife commercial value is a double-edged sword. Poachers like wildlife too." That is where enforcement comes in. On the other hand, if practitioners don't use a species, its value declines, and poachers don't generally want to take risks for a species whose value is waning.

Q: When I went to school, species conservation was barely mentioned. Are schools stepping up to respond to this problem?

A: The book was written to help colleges educate the next generation of practitioners about endangered species issues. I think our schools want to do the right thing. But that means they will

have to change (only slightly!) their herbal medicine curriculums to accommodate conservation information.

Q: How do you see the healing of people and the healing of the environment being related?

A: One of the most important concepts of Chinese medicine is the law of correspondence, which acknowledges and provides an extraordinary model for how nature impacts humans. Not only do the forces in our bodies "co-respond" with each other, we in turn "co-respond" to every aspect of our environment (and vice versa). We all know the Five Phases (water, wood, fire, earth and metal). If we reframe the traditional phases a bit, we can easily see how temperature, humidity, soil, air, water, minerals and metals can affect our health, either directly or indirectly, as they impact other species and organisms, which in turn, influence our health.

I recently read about a study that found that flavonoids (plant substances that may protect against heart disease and other age-related diseases) are higher in tomatoes grown organically than those that are conventionally grown. The researchers also compared flavonoid levels in tomatoes grown organically versus conventionally over a 10-year period and found that over time, the flavonoid levels in the organic tomatoes increased. One of the reasons is because organic farming practices focus on the health of the soil. So, if we eat food that has higher levels of nutrients, we are going to be healthier. This also extends to plant medicinals. If the soil that herbs are grown in is continuously improved through organic practices, we will have more powerful health-giving medicinals. So, something as basic as good soil stewardship in our food and herb systems demonstrates that the environment (via soil) plays a huge role in human nutrition and health.

We can also look at the relationship between human health and environmental health in more general terms. It is important to understand that intact ecosystems with highly diverse populations in numerous ways:

- Reduce the numbers of disease-causing organisms
- Alert us of toxins and other environmental hazards
- Give us sources for new drugs (and herbs)
- Keep our food and water supply safe and healthy
- Provide an outlet for us to reduce stress

It seems that every time I read a newspaper, I see some article that is related to human health and the environment. From toxic waste and chemical pollution to new diseases that spread rapidly, to dying pollinators, to air and water pollution, we simply cannot look the other way and assume that we are separate from nature. Every trade, profession and product we make and use depends on nature.

Q: You recommend putting what you call the "Five Phases of Conservation" into effect right now. Can you briefly summarize these for us?

A: The "Five Phases of Conservation" is a model for us to balance forces that impact a particular species and prevent its decline. Just as we use medicine to prevent disease and disability in our patients, ideally, this model would be used to formulate policies that would prevent species decline. It could also be used to restore a species or ecosystem, but at greater effort and expense.

Phase One looks at the species in question. Each species has unique behavioral, reproductive and physical needs and characteristics that are considered when administrators make policy or change it.

Phase Two looks at the ecosystem in which the species lives. Each ecosystem has its defining

characteristics that need to be weighed to ensure that outside pressure does not jeopardize its balance.

Phase Three looks at the local community. This includes how local people relate to and use a species, and the value they place on it as part of the ecosystem in which they live. The importance of this phase is the opportunity for the local community to exercise self-determination in their resource stewardship.

Phase Four looks at national and international laws. The abilities of a nation and the international community to conserve shared resources in ways that ensure their sustainability reflect our collective faith in the future. Laws are the tools through which society promotes the continuation of biodiversity and the successful regeneration of life. However, the vulnerability in this phase occurs at the enforcement level, which can lack the capacity to keep poachers at bay.

Phase Five looks at global civil society. This phase includes individuals from the grass-roots level to professional organizations, corporations, and everyone else in between. These individuals and groups conduct activities as diverse as research, advocacy and education, and financial and programmatic support for maintaining the healthy balance in and among ecosystems. This phase encourages everyone to be good stewards to all living beings wherever they are.

Q: Are you satisfied with the response you are getting from the book?

A: The response has been very positive.

Q: What are you doing now personally to bring your ideals about species conservation to the next level?

A: Personally, I want to focus on the local level. I want to do more in the way of enhancing the land I live on to benefit wildlife by planting more native (especially medicinal) species and supporting the native species that are there. Since I live in a rural community, I am also working on the local level to conserve open land and curtail development. I grow some of my own food and buy as much as I can locally. One of my "small and simple" changes this year includes buying goods from local businesses rather than the big chain stores. This means forging closer relationships with local businesses and depending more on my local community and yes, sometimes paying more, knowing I help keep "Joe Smallville Hardware" in business just like my neighbors come to me for treatment and keep me in business.

By avoiding doing business with big chain stores, we help reduce sprawl. When we allow uncontrolled growth to blight our communities, the first thing we lose is space, and big chains typically build parking lots three times the size of the store! This type of development devours land and contributes to habitat loss and with it, loss of biodiversity.

You know, even though practitioners in the West use medicinals from the East, we are all still a community and, in a sense, our efforts to conserve plant and animal species could be considered a local effort because of our common ties to Chinese medicine. I see the conservation of Chinese medicinal species as a way to bring our community closer together as we learn more about each plant and animal we use and using replacements, and by becoming educated about conservation issues that affect our livelihood. Thank you for this opportunity to discuss something so near and dear to my heart.

