Title
A Plague of Rats and Rubbervines: The Growing Threat of Species Invasions

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In the summer of 2002, with front page headlines given to the Chinese Snakehead fish menacing Maryland waters and the East African West Nile virus now present in most American states, many Americans received a heady awakening to the global problems of invasive species. In fact, for quite some time in the United States, invasive species have been pervasive and doing costly damage-to ecosystems, the economy, and human health. Yet because of the complexity and global nature of invasive species phenomena, the problem is under-appreciated and not placed in its proper global context. Just at the right time, science writer Yvonne Baskin does much to explain and illuminate the problem of invasive species in her interesting and cogent book, *A Plague of Rats and Rubbervines: The Growing Threat of Species Invasions*. With much focus on the United States, *A Plague of Rats and Rubbervines* also contains vivid sketches and examinations of invasive species situations and redress efforts in places throughout the world, such as Lake Victoria, the Galapagos Islands, South Africa, Malaysia, Australia, and New Zealand.

The United States especially suffers from invasive species, in large part because of our under-checked trade activity in which we buy "18.9% of all global imports" (p. 105). Many of these invasive species not only cause economic damage but also threaten native American species with extinction. Zebra mussels, for example, native to the Black, Aral, and Caspian Seas, arrived in the Great Lakes via the Saint Lawrence Seaway and have since infiltrated the Mississippi River and recently the Missouri River. Encrusting themselves on boats and in industrial water passages, the zebra mussels have cost the economy 3.1 billion dollars over a ten-year period (p. 88). They have also caused American ecologists to worry that the zebra mussel may "drive ninety species of native freshwater mussels extinct in the Mississippi River Basin alone" (p. 88).

As bad as the invasive species is for agriculture in the United States, it is worse in many other parts of the world. The developing world is especially hard hit by invasive species, and Baskin has some very vivid passages
describing the blights that persist in developing nations. In India, for example, lantana, "an imported shrub from the Americas" has "invaded millions of hectares of crop land and pastureland." Lantana has proved to be so redoubtable that its durable presence has caused some villages to "eventually abandon farming." Plant weeds like lantana and other pests accumulatively cause great damage to the health and well-being of populations all over. As Baskin points out, pests "diminish global crop yields by 35 to 42%, while depleting another 20% of stored food stuffs" (p. 48).

One other cross-boundary aspect of invasive species discussed in Baskin's book that warrants compelling attention is the spread of disease associated with invasive species. The West Nile virus is one of 156 infectious diseases "known to be emerging today" (p. 69). Three quarters of these diseases plaguing human beings are "zoonoses"-animal-borne diseases that jump from animals unto women, men, and children. Today diseases introduced into wild and protected lands by human-introduced foreign species also increasingly infect wildlife. In the 1990s in Tanzania's famed Serengeti National Park, one-third of the park's lions and all of the remaining wild dogs were killed when canine distemper virus jumped from domesticated dogs to wildlife.

With Baskin's discussion of disease and economic and aesthetic losses, A Plague of Rats and Rubbervines presents the problem of invasive species as multi-faceted and at times overwhelming. Yet there are individuals and groups who make admirable efforts to respond to invasive species situations, some of whom receive deserved attention in Baskin's book. South Africa's Working for Water program, for example, employs over 20,000 people and is a combination poverty alleviation and environmental redress effort. Another important example to mention is the Global Invasive Species Programme (GISP), a consortium of organizations and specialists that leads in invasive species educational and redress efforts throughout the world. GISP works closely with the Convention on Biological Diversity (CBD), the environmental treaty ratified by over 180 countries, which has a unique and broadly applicable treaty provision on alien species (CBD Article 8h). While the United States participates in GISP, it has not ratified the CBD, notwithstanding President Clinton’s signing the treaty in 1994 and a Senate Foreign Relations vote of 16-3 to ratify the treaty.

One final strength of A Plague of Rats and Rubbervines is important to mention. Throughout the book, Baskin displays realism about our culture and markets' relation to nature that is a refined strength of the book. While calling for more diligence in safeguarding the biogeographic boundaries that spawn the wonder and beauty of nature, Baskin also emphasizes the imperative of human stewardship and an unsentimental acceptance for some
inevitable modification of landscape and species distributions. Baskin exhibits this realism when describing an ecosystem restoration effort in New Zealand that includes a reference to Charles Elton, the British ecologist who wrote the seminal and prophetic book on invasive species in the 1950s. She writes: "It is, I believe, what Charles Elton envisioned as a 'modified kind of nature'-different, undoubtedly diminished in the eyes of many, yet no less a thing of value or source of optimism that the primeval communities of the 1850s" (p. 288). This is one of many examples in which Baskin shows that the subject of invasive species is also the subject of the human place in nature. The most overriding point she succeeds in making in A Plague of Rats and Rubbervines is that there are avoidable yet high costs we incur when we are thoughtless about this place.

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