

Nature Out of Control

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NATURE OUT OF CONTROL

Nature Out of Place: Biological Invasions in the Global Age. Jason van Driesche and Roy van Driesche. Island Press, Washington, DC, 2000. 363 pp., illus. \$29.95 (ISBN 1559637579 cloth).

Edvard Munch's *The Scream* is the image that popped into my head as I read through this magnificent book. Books by parents and their offspring are uncommon; only two examples come to mind: Fred and Geoffrey Hoyle, and of course Dorion Sagan and Lynn Margulis. Jason and Roy van Driesche join this literary club in high fashion with a book that should become a classic, a warning cry that merits comparison with Rachel Carson's *Silent Spring*.

Jason is a graduate student in the Institute for Environmental Studies at the University of Wisconsin–Madison, while Roy, a professor of entomology at the University of Massachusetts, has to his credit a body of highly respected work on biological control of insects and a textbook, *Biological Control*, coauthored with Tom Bellows (New York: Chapman and Hall, 1996). Jason and Roy's writing styles are complementary. Jason has the skills of a novelist. He is a traveler who gathers facts, observations, and emotions, then presents to us the characters he meets. Roy has the trained scientific eye. He gathers figures and offers concise summaries, although sometimes the excellent information he presents is so densely packed that reaching Jason's chapters brings back memories of the bell before recess.

The book begins with a sobering visit to supposedly idyllic Hawaii and describes the ecological chaos caused by feral pigs. We learn about the many governmental groups that have been involved, their different perspectives and time horizons, and the vastly different types of studies they conduct. Lack of coordination explains why a comment made recently by Frank Howarth of the Bishop Museum may be true more often than we would like. Referring to the introduction into Hawaii of a tiny frog (*Eleutherodactylus*) from Puerto Rico, Howarth observed that "they had a pretty fair chance of eradication, but public agencies are constipated by their own bureaucracies" (quoted in William Booth, "Hawaii Suffers an Amphibious Invasion," *Washington Post*, 5 May 2002, p. A1). Meanwhile, as groups that are dealing with feral pigs debate the rights of hunters versus the rights of those wanting to conserve the endemic fauna, the ecosystem continues to be affected in a myriad of ways. For the tourist, these issues remain silent and unseen. The authors are good at opening the curtain so that we see what is behind the stage.

The invasive species discussed in this book include plants (purple loosestrife, leafy spurge, water hyacinth, and miconia and paperbark trees), insects (hemlock, woolly adelgids, Asian longhorn beetles), vertebrates (feral pigs, sheep), and mollusks (zebra mussels). Those who ask "What's the big deal about an introduction of a new species into a habitat?" may well scream in horror after learning about nature's precarious existence. Introduced zebra mussels are displacing native mussel fauna, beech scale spreads a fungus (*Nectria*) that devastates birch forests, and the woolly adelgid kills hemlocks and, as a consequence, eliminates deep shade that maintains cool temperatures at ground level. This in turn affects organisms such as the brook trout, which thrives best in hemlock-shaded streams. Effects cascade in a way hard for the untrained eye to see.

It is of particular interest that there might be an important role for chemicals in dealing with invasive plants. The Australian paperbark trees in South Florida and gorse in Hawaii are cases in

point. Owing to the ease of identification of stands of these species, it was possible—using mechanical and chemical control—to reduce infestations of gorse from 2000 acres to 75 acres as of 1999.

In what I consider to be the best chapter of the book (chapter 12), the authors discuss the importance of involving the local community in restoration projects. I first learned of this concept of community development from Dan Janzen's work in Guanacaste (Costa Rica is not mentioned in this book), but it was nice to see this concept applied to a location in the United States. The chapter is also noteworthy because it demonstrates how our concepts of "natural" are biased. For the most part, we lack an understanding of the historical aspect of "nature." Thus if a project tries to restore a long-gone forest savanna, local people might see the selective cutting of trees and shrubbery as the undesirable destruction of nature. Yet the "natural" areas with which they are familiar provide illusory impressions of what the area once looked like. Historical context is not apparent to the nonexpert.

The authors present ample evidence of "the inability of the U.S. government to formulate a coherent national policy on the importation of nonnative species" (p. 141). They also describe changes in policy that might ameliorate some of the problems. Many invasive species may be justifiably treated like "biological explosives." These insights deserve to be widely understood, and policymakers (and their aides) at the state and federal levels need to read this book. This information, together with the laissez-faire attitude of certain politicians toward issues such as global warming, should deeply concern us. This beautifully written and thor-

oughly researched volume will be appreciated by all biophiliacs.

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