from these projects did not reach the announced target; in the case of conservation, money went to foreign consultants and experts or to bureaucrats in recipient countries. Money did not go to buy land, to pay park rangers, to provide adequate science, or to fund on-the-ground conservation necessities. Bigger budgets brought status and big incomes to those who proposed them, while much cheaper, more timely, and more effective actions were ignored.

Oates does more than offer a critique of failure. He also identifies what has worked, pointing outside of West Africa or to some functioning protected areas within the region in the 1960s. He notes that India shares many of West Africa's problems: a burgeoning population, high population density, extreme poverty and inequality, and inefficient government. Yet conservation focused on basic protection has worked in India, he argues, pointing to recovering populations of rhinos, tigers, and crocodiles. Oates provides several reasons for this success. Conservationists can't solve the world's problems and are effective when they focus on what they know, that is, conservation. Good laws and good enforcement are critical and are not necessarily expensive. They are certainly much cheaper than US $100/hour consultants and bureaucrats. Indian conservation also is largely self-funded, so it does not rely on the grand scheming of distant agencies and NGOs. The Indian civil service, though inefficient, takes its mission seriously. And with a weak hunting tradition and a culture that calls for people to value the lives of all species, there is widespread if not active support for conservation.

Conservation successes in West Africa, minimal as they are, show similarities with those of India. Conservation, Oates notes, has been successful in West Africa when committed individuals have been willing to fight indefinitely for protection. Success is also associated with enforcement and with cultural education about the value of wildlife and wildlands. Where long-term research efforts conducted by indigenous scientists have existed, protection has been more effective. Moreover, the existence of specific management recommendations for a well-defined area, as opposed to grand but general schemes, pays off. It is also important, Oates argues, to deal with those who really hold the power rather than with the mythological "noble community" (read "noble savage" of another era).

In the penultimate chapter, Oates takes on captive breeding, building on the insightful and comprehensive earlier work by Noel Snyder and his colleagues. While acknowledging that captive breeding may have a role, Oates notes that protection in the wild is much cheaper and avoids many problems associated with captive breeding, including disease, depletion of the species in the wild, reintroduction difficulties, the frailty and unreliability of human institutions, and the inability of captive breeding institutions to garner adequate funding. In the end, Oates's argument and plea is simple: conservationists need to return to basic protection. If one-tenth of the money that goes to conservation/development projects went to direct protection, enormous things could be achieved in conservation in West Africa.

The great weakness of Oates's work is that it is anecdotal and not a systematic review of a random sample. Yet the strength of his "data set" and his argument is strong enough that the burden of proof must be clearly placed on the shoulders of NGOs and agency personnel spending millions in scarce resources, apparently achieving neither conservation nor development.

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A Conservation Tool: Software to Identify Tropical Tree Species

Arboles Tropicales Comunes del Area Maya, Sistema de Identificación Taxonómica. Ogata, N., A. Gómez-Pompa, A. Aguilar-Meléndez, R. Castro-Cortez, and O. E. Plummer. 1999. CD-ROM developed by Q-TAXA, Department of Botany and Plant Sciences, University of California, Riverside, California. $24.00 plus shipping. To order, contact Susan Beauchene, General Book Department, UCR Bookstore, University of California, Riverside, 900 University Ave East, Riverside, CA 92521, U.S.A. Telephone, 909-787-4211; fax, 909-276-9105; email, susan.beauchene@ucr.edu; UCR Bookstore web page, http://www.bookstore.ucr.edu. Requirements are a Pentium with at least 90 Mhz of speed and 16 MB of RAM, a 800 × 600 resolution screen of at least 256 colors, a CD-ROM drive of 6× speed, and Windows 95 or 98 (programs will not run in Windows NT).

The ancient Maya occupied a territory that stretched from Northern San Salvador and Honduras in the south, across Guatemala and Belize, and into the states of Quintana Roo, Campeche, Yucatán, Tabasco, and Chiapas in Mexico. Although some parts of this extensive territory have been severely denuded of their natural vegetation (e.g., Tabasco and northwestern Yucatán in Mexico), other regions still contain large and healthy tracks of contiguous forests (Primack et al. 1998). The Maya area offers tremendous variation in elevation (from sea level to above 3000 m), annual precipitation (from 500–5000 mm), maximum and minimum daily temperatures, and vegetation types (from pine-oak forests in the colder highlands to tropical rainforest in the wet lowlands and scrublands in the dry lowlands). Yet this region is bound by one important common feature: the urgency to conserve the high biological and cultural diversity within it.

Without a doubt, ecologists and conservation biologists working in this region and adjacent areas will find *Arboles Tropicales Comunes del Area Maya. Sistema de Identificación Taxonómica* an invaluable resource. This software was developed

to aid in the identification of the most common trees in the Mayan region. Through the use of menus, the user can find tree species by looking within families (60 plant families total) or within genera (244 genera included). For each of the 658 tree species included in the program, the user can gather information about common names (in 40 languages), uses, worldwide distribution, and synonimia and can peruse a small bibliographic selection on a species' ecology or taxonomy. For some species, comments on flower and fruit phenologies also are included. In addition, each tree species is accompanied by at least one (typically two or three, and for some species as many as nine) image of an herbarium specimen or of living individuals.

In addition to information on tree species, the program includes a guide to the vegetation types of Mexico, following the classifications of Miranda and Hernández-Xolocotzi (1963) and Rzedowski (1981). *Arboles Tropicales Comunes del Area Maya* also includes a program to identify plant families, genera within families, and species within genera. Through a series of menus, one chooses from a number of vegetative or reproductive characters until an identification is reached. Once the specimen is identified, one can return to the original menu, select the species, and check the specimen, with the images offered for corroboration.

As with any other tool, this software will be more useful if one is well aware of its limitations before and during its usage. As stated in the title, this software is intended to help with the identification of the most common trees. Hence, other plant forms (e.g., lianas, herbs, and shrubs) are not presented. Likewise, rare tree species are not included. One must be aware of this fact, for the danger exists of mistaking a rare tree species for a similar-looking common tree. Also, when selecting some species, the program selects the correct family to which it belongs, but sometimes it also states some unrelated subfamily. So one must learn to ignore this and use only the family listed. The program has an information bias toward Mexico, perhaps reflecting the origin of many of the authors, but it is still useful for biologists working in Central American countries. As a piece of software, the program's usefulness is still seriously limited for many remote field sites.

Compared with other plant field guides for tropical countries or regions, this source falls within the lower range of number of taxa included. For comparison, Pennington and Sarukhán (1998) include 191 tree species, Killeen et al. (1993) include 2733, Gentry (1993) include more than 2666 genera of woody and some herbaceous plants, and Ribeiro et al. (1999) include 2733 species of vascular plants. The amount of information provided for each tree species in this CD-ROM is considerable, however.

Arboles Tropicales Comunes del Area Maya is an important step forward in aiding the work of ecologists and conservation biologists who are not specialists in plant taxonomy. The program is written in Spanish, which should make it more accessible to local professionals without constraining substantially its use by those who speak other languages.

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