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## Introduction

Though I do not believe that a plant will spring up where no seed has been, I have great faith in a seed. Convince me that you have a seed there, and I am prepared to expect wonders.

—Henry David Thoreau (*Faith in a Seed*)

The Amazonian wilderness, together with the eastern slope of the Andes, harbors the greatest terrestrial and freshwater diversity known on Earth, and is an irreplaceable resource for present and future generations. Ongoing environmental degradation, however, poses a serious threat to the region's biological diversity. This degradation is a result of numerous factors, particularly unwise exploitation of the land and rapid population growth. In megadiverse regions such as the Andes-Amazon, managing these matters and developing wise programs for conserving natural resources is a huge undertaking, requiring the efforts of an array of individuals with widely diverse expertise. An accurate accounting of the flora, combined with ecological studies, is indispensable to such efforts.

Due to their diverse forms, shapes, and sizes, seeds have always been used by collectors, artists, and naturalists. In recent years, seeds have become increasingly important to our understanding of forest regeneration, plant propagation and restoration, seed dispersal, and wildlife ecology, as well as in the identification of flora. Seeds store the genetic diversity of plants, and as the key component of the process of forest regeneration they form an essential structural component of all ecosystems. Seeds are an important food resource for animals, and have evolved diverse strategies, reflected in their shape, color, taste, odor, appendages, and protective coverings to ensure their perpetuation in an ever-changing environment. In some

angiosperms the seed is part of a *diaspore* containing hairs or wings with additional plant tissue to facilitate dispersal.

During more than two centuries of natural science research in the Neotropics, biologists attempting to classify and identify the plants of this region have been met with certain challenges due to the lack of tools such as field guides or adequate identification keys, particularly guides for seeds. One seed guide has been published for Central America and northern Mexico (Lentz, 2005), and two books have been published to aid in the identification of the fruits of neotropical South America, focusing on the Guianas (Roosmalen, 1985) and the Sierra de la Macarena on the eastern slope of the central Colombian Andes (Stevenson, et al., 2000). A recent book by Lobova, et al. (2009) provides data and images for identifying seeds dispersed by bats in the Neotropics. These books exemplify the basic tools required by biologists and ecologists working in those regions. Yet to date there are no field guides for identifying the great diversity of seeds from the Amazon or other neotropical rainforests.

While this guide represents only a portion of all the genera encountered in the Amazon or the neotropical region, we have tried to include at least one example from each of the more common families that exist in the Amazonian region. Most families are well-represented by a selection of genera. For the most diverse families, such as the Orchidaceae, we were able to provide only a few representative examples of their seeds. Although the seeds of this guide were collected in the Peruvian Amazon, many of them, at the generic level, are distributed in other regions of the Neotropics, other parts of the Americas, and sometimes on other continents.