

# The Biodiversity Crisis, Charitable Giving, and Estate Gifting

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We would like to encourage Lepidopterists' Society members to consider in their charitable giving and estate planning organizations such as the Lepidopterists' Society, The Wedge Entomological Research Foundation, the Smithsonian Institution, the Canadian National Collection, universities and natural history museums with systematic collections, and other like-minded entities. The world is in the midst of a biodiversity crisis, with many regions (faunas) highly imperiled directly or indirectly by human activities. According to a recent report by the United Nations Food and Agriculture Organization, an area roughly the size of Costa Rica is deforested each year: large portions of Haiti, Madagascar, and Brazilian Atlantic palm forests have been cut, burned, and converted to agriculture or otherwise developed. Additionally, human-spread exotic plants and animals threaten native biotas worldwide, and climate change is accelerating our collective need for action, and already is threatening coastal strand, arctic, and sky-island communities.

To maintain, manage, and protect biodiversity it is imperative that we understand the basic taxonomy and distributions of the components that make up that diversity. Systematists play quintessential roles in the preservation of biodiversity by making and curating collections, describing taxa and providing the means to recognize them, and calling attention

to unique and/or imperiled taxa (and communities). Given that moths and butterflies represent one of the most speciose and ecologically successful lineages of macroscopic organisms on the planet, there has never been a time of greater need for systematists who can describe new taxa, prepare revisions, write monographs and catalogs, construct natural classifications, handle pest inquiries, provide identification services, and support efforts to conserve imperiled members of this beautiful and important group of animals.

Basic taxonomy and systematics provide the intellectual framework upon which many biological disciplines and inquiries are grounded. The recent renaissance in systematics and the opportunities made possible by innovative molecular techniques and modern taxonomic tools (including on-line taxonomic resources, new phylogenetic inference programs, automated alpha taxonomic software, digital imaging capabilities) have made it increasingly possible to carry out timely, state-of-the-art revisionary studies.

Although there are institutions that have thriving programs in organismal and systematic biology (with curatorial positions in their budget lines, coursework in a sweep of "ologies," and well-supported collection facilities), there are many more universities and museums across the globe in which systematic biology and biological

collections are underfunded and understaffed. Dedicated endowments provide the only surety that institutions have to guarantee long-term financial resources and administrative commitment for the study of systematics. Gifts to support studies of Lepidoptera that are tied to positions for curators, collection managers, student fellowships, and collections operations are urgently needed—one such opportunity that we are endorsing is the creation of an endowment to pursue studies of the Geometroidea to fill the void left by several recent retirements and the untimely passing of Douglas Ferguson—see text box on opposite page.

Donations made to the Lepidopterists' Society and like-minded societies and institutions are tax-deductible. And, while charitable gifts are needed immediately to fund biodiversity studies, we also realize that financial uncertainties across the globe often make it impossible for members to make the large gifts necessary at this time to ensure resources in perpetuity. Estate gifting, while not a near-term solution, may be the most viable and universal means for all to contribute monetarily to the science of lepidopterology and the preservation of the animals that have come to be the focus of our attentions. Please do find a way to include charitable gifting in your long-term (estate) planning. To make donations to the Lepidopterists' Society contact Kelly Richers (661-665-1993 or kerichers@wuesd.org).

## Endowed Position in Lepidopteran Systematics

One of the most important and diverse lineages of macroscopic organisms on the planet is the geometrid moths (inchworms, loopers, and spanworms). More than 12,000 geometrid species have been given names, and thousands new to science remain to be described. The Wedge Entomological Research Foundation is seeking funds to build an endowment that would support a systematist to carry out revisionary work on geometrids at the Smithsonian Institution or a comparable center of taxonomic excellence.

The Geometridae are the second largest family of Lepidoptera (butterflies and moths) in North America with more than 1,400 described species. Although there are many exceptions, most geometrids feed on woody perennials, and hence the family is well represented in woodland and forest habitats, and several are significant forest pests. Because of their sheer diversity and abundance, geometrids are integral to proper functioning of wooded landscapes. Their larvae make up a high proportion of the diets of warblers, vireos, and related songbirds. In a recent treatment of insect defoliators in North American forests, the Geometridae accounted for three times as many pest species as any other lepidopteran family. In addition to their economic importance, defoliation events are a threat to human safety by increasing fire risks. A spate of recent papers has demonstrated the family's utility in bioassessment studies, especially in tropical ecosystems where geometrids exhibit extraordinary species diversity.

Arid areas of the Southwest and Mexico are home to a diverse and largely unstudied geometrid fauna. The Neotropics are extraordinarily rich in geometrids, both in low-lying rainforests (e.g., sterrhines) and in mountainous regions (e.g., laurentiines). The genus *Eupithecia* alone (arguably the largest macrolepidopteran genus on the planet with an estimated 2,000 described species) presents a bewildering and virtually unstudied array of species in the

Central American and Andean cordilleras.

As recently as 15 years ago there were four active senior geometrid workers in North America: William McGuffin (Canadian National Collection), Frederick Rindge (American Museum of Natural History), Douglas Ferguson (USDA/Smithsonian Institution), and Charles Covell (University of Louisville). With Ferguson's untimely passing and recent retirements, there are now none, and need could scarcely be greater.

Please consider contributing to a WERF endowment, either through charitable

gifts or your estate planning. For more information, please contact Ronald W. Hodges (541-684-0484 or [rwhodges@rhodges.net](mailto:rwhodges@rhodges.net)).

Although the initial focus of the Foundation will be to raise funds for a geometrid worker, to fill the void left by Ferguson's passing and the retirements of many of his contemporaries, the position will not be tied to any single group of Lepidoptera. Of greater importance will be the nature of research: WERF is committed to supporting research in systematic biology that will lead to the completion of MONA fascicles and other scholarly monographic products.

