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The Plusiinae (Lepidoptera: Noctuidae) of Great Smoky Mountains National Park

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Abstract

Seventeen species of Plusiinae have been found in Great Smoky Mountains National Park, in Tennessee and North Carolina, USA. These species are documented with adult images, description, flight period, abundance, elevation range, Park and general distribution, and larval hosts from the literature. Maps illustrate the known distribution of each species within the Park. Sixteen of the 17 species occur above 4,000 feet in elevation. The most diverse locality in the Park has 14 species.

Key words: systematics, All Taxa Biodiversity Inventory, North Carolina, Tennessee, moths

Introduction

Great Smoky Mountains National Park (GSMNP) is one of the most biologically diverse areas in the temperate region. The Park straddles the Southern Appalachians in eastern Tennessee and western North Carolina and encompasses over 800 square miles (2,200 sq. km), ranging in elevation from 875 to 6,643 feet (266–2,025 m). Ascending in altitude is equivalent to moving northward in latitude, which results in many northern and boreal moth species reaching their southern distribution in GSMNP.

Global biodiversity is in crisis with the prediction of the fastest mass extinction in biological history currently in progress. A number of threats to the Park's ecological integrity include invasive species in both terrestrial and aquatic habitats, very high deposits of nitrogen and sulfur, high ozone levels, and fragmentation of surrounding natural areas as a result of increased human development. To monitor these effects an All Taxa Biodiversity Inventory (ATBI) is currently underway in GSMNP to document all species of life there. Discover Life in America (DLIA) (www.discoverlifeinamerica.org), a nonprofit organization, is involved in identifying and developing resources and

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