

Introduction

The tiger moth family, Arctiidae, comprises over 11,000 species distributed worldwide. The adults of many of the species are brightly colored and fly during the day. Arctiid caterpillars are often called woolly bears because most species have a hairy or bristly appearance resulting from their densely setose verrucae. The family is notable for a diversity of biological attributes including mimicry (Seitz 1911–1924, 1913–1939), the use of toxic compounds obtained from plants for defense and courtship (for review see Weller et al. 1999), and the ability to emit ultrasound in the hearing range of predatory bats (Fullard et al. 1979, Surlykke and Miller 1985).

Previous systematic work on the Arctiidae has stressed single character systems and diagnostic features of intuitive groupings based on overall similarity. A cladistic analysis of representative species of the Arctiidae has never been undertaken.

We address arctiid relationships using both traditional and novel character systems from the larval, pupal, and adult stages. The classification presented in the overview of taxonomic history is a combination of generally accepted schemes. Following the cladistic analysis, a discussion of the monophyly (or lack thereof) and relationships among these groups is provided. Certain of the relationships confirm what other authors already had surmised, and will provide a better basis for detailed studies at the subfamilial and tribal levels.