

## 乌云界国家级自然保护区蝴蝶物种多样性及其保护

李密<sup>1</sup>,周红春<sup>1</sup>,谭济才<sup>1\*\*</sup>,王鹏<sup>1</sup>,刘国华<sup>2</sup>

<sup>1</sup>湖南农业大学生物安全科学技术学院,长沙 410128; <sup>2</sup>湖南乌云界国家级自然保护区管理局,湖南桃源 415700

## Butterfly species diversity and its conservation in Wuyunjie National Nature Reserve, Hunan Province of China.

LI Mi<sup>1</sup>, ZHOU Hong-chun<sup>1</sup>, TAN Ji-cai<sup>1</sup>, WANG Peng<sup>1</sup>, LIU Guo-hua<sup>2</sup>

<sup>1</sup>College of Bio-Safety Science and Technology, Hunan Agricultural University, Changsha 410128, China; <sup>2</sup>Wuyunjie National Nature Reserve, Taoyuan 415700, Hunan, China

- 摘要
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**摘要** 2008年6月至2010年9月采用路线法对湖南乌云界国家级自然保护区蝴蝶物种多样性进行了调查,针对4条调查路线31个样线段的植被物种丰富度、海拔高度、离水源距离和人为干扰程度等影响蝴蝶物种丰富度的主要因子,开展多元回归分析比较,同时对试验区、缓冲区和核心区3个规划区域进行蝴蝶群落多样性分析和相似度比较。共采集记录到蝴蝶147种,隶属于10科94属,其中国家保护种4种;多元回归分析表明,植被物种丰富度、海拔高度和人为干扰程度是影响蝴蝶分布最主要的3个因子,其中植被物种丰富度与蝴蝶物种丰富度存在极显著正相关( $P<0.01$ ),海拔高度和人为干扰程度与蝴蝶物种丰富度存在显著负相关( $P<0.05$ );核心区的蝴蝶物种丰富度、多样性指数均高于缓冲区和试验区,试验区的优势度指数较高;缓冲区与核心区的相似度系数较高,达到0.526。该自然保护区蝴蝶物种多样性的保护重点在于保护植物群落多样性,保持林相之间的自然演替,适当减少人为干扰,以及加强特殊蝴蝶生境的维护。

**关键词:** 蝴蝶 物种多样性 物种丰富度 保护 乌云界国家级自然保护区

**Abstract:** By using line-transect method, an investigation was conducted on the species diversity of butterfly in Wuyunjie National Nature Reserve, Changde City of Hunan Province from June 2008 to September 2010. Aiming at the main factors including plant species richness ( $D$ ), mean elevation ( $E$ ), average distance from stream/river ( $F$ ), and human interference level ( $K$ ) that affecting the species richness of butterfly in 31 segment-level transects in 4 line-transects, multiple regression analysis was made, and the diversity and similarity of the butterfly communities in the experimental zone, buffer zone, and core zone of the Reserve were compared. A total of 147 butterfly species were collected, belonging to 94 genera and 10 families, among which, 4 species was nationally conserved species. Multiple regression analysis showed that  $D$ ,  $E$ , and  $K$  were the three most major factors affecting the distribution of butterfly. The species richness of butterfly had significant positive correlation with  $D$  ( $P<0.01$ ), and negative correlations with  $E$  and  $K$  ( $P<0.05$ ). The species diversity and evenness index of butterfly were higher in core zone than in experimental zone and buffer zone, dominance index was the highest in experimental zone, and a higher similarity index (0.526) was observed between buffer zone and core zone. To conserve the species diversity of butterfly in the Reserve, efforts should be made to protect the plant species richness, keep the natural forest succession, decrease the human interference properly, and tighten up the management of butterfly habitat.

**Key words:** butterfly species diversity species richness conservation Wuyunjie National Nature Reserve

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