

The Biodiversity and Ecology of the Butterflies (Rhopalocera) of the Iwokrama Rainforest and the Communities of the North Rupununi District, Guyana, South America.



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Introduction

Butterflies, renowned for their beauty, are one of the most intensively studied groups (Comiskey et al 2003). In addition to their glorious colours and kaleidoscopic assortment of patterns they are important pollinators, silk producers and bio-indicators (Boonvanno et al 2000).

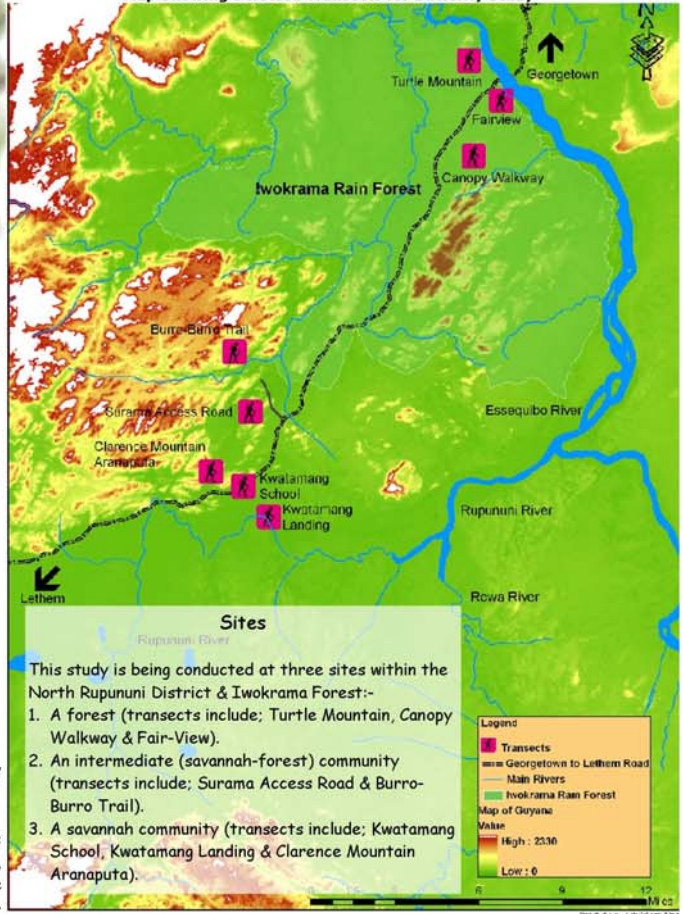
Butterflies also play vital roles as study specimens in research related to inheritance, cancer, anaemia and viral infections (Smart 1989).

In spite of their popularity among the scientific and non-scientific community much is still unknown about butterflies and it is believed that if tropical areas, such as Guyana, are investigated many new species will be discovered.

In Guyana minimal Lepidoptera research has been completed and a great deal is therefore still left undiscovered. This project, which investigates the diversity and ecology of the butterflies of the Iwokrama Forest and the North Rupununi District, will add a substantial amount of data to the existing information pool.



Map Showing Selected Transects for Butterfly Study



Research Methodology

The following methods are used to capture butterflies on the line transects located at the three selected sites:-

- Fruit baited traps.
- Hand collecting with nets as illustrated by Neild.
- Walk and count as described by McDonough.

In addition to catching butterflies each habitat type is described, phenological & seasonal patterns are noted and all sites are geo-referenced.



Preliminary Results

From data collected thus far the following are evident:-

- Butterfly communities present in each habitat type are dominated by common species.
- Butterfly diversity, richness and abundance are dependent on both the biotic and abiotic components of the environment - vegetation and topography.

Data Analysis is ongoing...

However, based upon research and present trends it is surmised that, as more data is collected, these associations will become more evident and other trends will manifest.



Project outputs

The major outputs of this project are two fold:-

1. Understanding, from correlations made, the relationships that exist between the biodiversity of the butterflies and the seasonal patterns, phenological patterns, habitat types and varying elevations of this region.
2. Using data on species diversity of the North Rupununi and Iwokrama butterflies as a guide to selecting habitat appropriate farmed species.



References

- Boonvanno, K., Winstanley, D., Peh, K.S., (2000). *Butterflies of the Iwokrama Rainforest, Guyana*. Research Arts Society, Arts.
- Comiskey, J.A., Jones, Catherine T.C.H., Greves, J.J.L.S., (2003). *Butterflies of the Iwokrama Rainforest, Guyana*. Tropical Park, pp. 207.
- McDonough, A., (1997). *An Assessment of Forest Canopy and Butterfly Diversity in the Rainforest of Central Guyana*. Submitted as part of the requirements for the Degree, B.Sc. Environmental Studies the University of Hertfordshire.
- Neild, A.F.E., (1996). *The Butterflies of Venezuela Part 1: Nymphalidae I (Limenitidinae, Apaturinae, Charaxes)*. Meridian Publications, Greenwich, London, pp.14-25.
- Smart, Paul, (1989). *The Illustrated Encyclopedia of the Butterfly World*. Published by Salamander books Ltd, United Kingdom, pp. 12, 36, 97.