

WHAT'S UP?

THE NEWSLETTER OF THE INTERNATIONAL CANOPY NETWORK

NALINI NADKARNI, EXECUTIVE EDITOR

HANNAH ANDERSON, EDITOR

IBISCA: TOWARDS A CENSUS OF CANOPY LIFE

Yves Basset

*Smithsonian Tropical Research Institute
bassety@si.edu*

Maurice Leponce

*Royal Belgian Institute of Natural Sciences
maurice.leponce@naturalsciences.be*

A three-day workshop was organized at the Royal Belgian Institute of Natural Sciences, Brussels, Belgium, 6-8 July 2005, with financial support from the European Science Foundation, United Nations Environment Programme and Global Canopy Programme <<www.sciencesnaturelles.be/cb/ants/meetings/esf_exploratory_workshop.htm>>. The workshop focused on the international project IBISCA (Investigating the Biodiversity of Soil and Canopy Arthropods; <<www.naturalsciences.be/cb/ants/projects/ibisca_main.htm>>, an initiative of the Smithsonian Tropical Research Institute and of Pro-Natura International with the technical support of Océan Vert. This project studies the vertical stratification and beta diversity of arthropods in the San Lorenzo rainforest in Panama, using state-of-the-art methods of canopy access and sampling, namely canopy fogging, canopy cranes, single rope techniques, and canopy raft and peripherals. The aims of the workshop, which was attended by 37 scientists from 16 countries, were (a) to summarize what has been learned

from the IBISCA project overall; (b) to plan meta-data analyses and the dissemination of this novel and important information; and (c) to use this material as a springboard to initiate new collaborative programs of research about the distribution of mega-biodiversity in tropical rainforests and to plan a 'census of tropical rainforest life'. The workshop consisted of 30 presentations and plenary and group discussions.

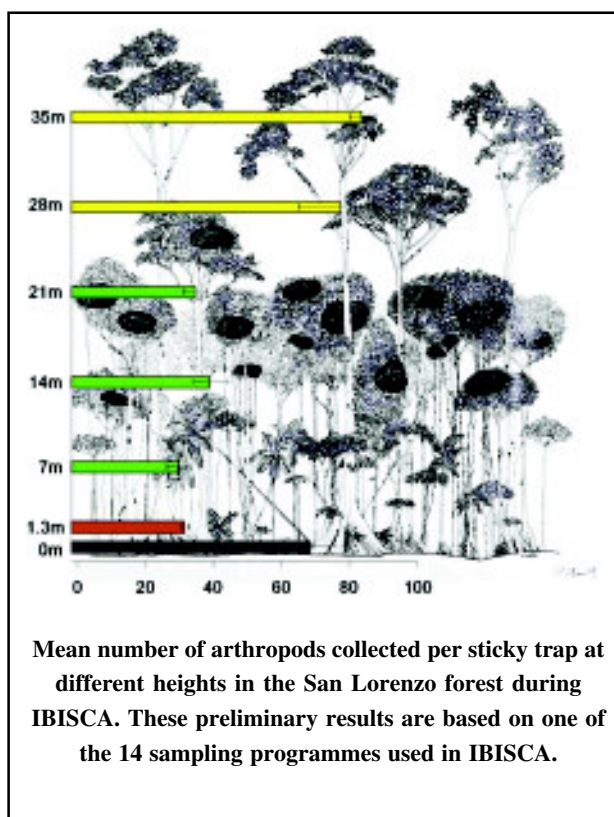
PRELIMINARY RESULTS OF THE IBISCA PROJECT

Currently the IBISCA database, which summarizes horizontal (beta diversity), vertical (vertical stratification) and seasonal distribution of arthropods in the San Lorenzo forest, includes 85 contributors (ecologists and taxonomists), 14 sampling programmes, 7,233 samples, 422,217 specimens and 1,960 species. We estimate that the final product should shed light on the spatial and seasonal distribution of about half a million specimens and several



View of the canopy of the San Lorenzo forest, home of the IBISCA project.

thousand species, distributed among ca. 60 focal groups of different phylogeny and ecology. This database currently has no equivalent. The main job of sorting the material to higher taxa and extracting focal taxa has been done for all sampling programmes. The morphotyping of most focal groups will probably be completed by December 2005. Identifications, when possible, will be much slower. We expect that databasing of most IBISCA-related information could be completed by June 2006, and that participants will be able to analyze collectively their major findings and report them in a leading scientific journal. Problems identified during the IBISCA project could be eased by working with local parataxonomists trained beforehand to sort and process focal groups, as well as additional funding to speed up different tasks.



ANALYSES AND DISSEMINATION OF IBISCA RESULTS

The following steps are needed to complete the IBISCA-Panama project: additional field work, further taxonomical analyses and specimen databasing, processing of ecological variables, improvement of the IBISCA database, and development of a web site. The keys questions targeted by IBISCA are: (1) What is the relative contribution of vertical stratification, seasonality and degree of beta diversity to the distribution of arthropod biodiversity in a closed-canopy tropical rainforest? (2) How do life history traits of species, such as host specificity or feeding guild, influence the spatial and

temporal partitioning of arthropod biodiversity in a closed-canopy tropical rainforest? To this end, one leading concept will be to consider diversity partitioning: total diversity consists of alpha diversity (within sample units), horizontal beta diversity, and vertical beta diversity. So far, the IBISCA project has been presented in six scientific articles and 13 magazine articles. We expect that most IBISCA results should be disseminated during 2006-2008 (multi-authored research papers, high-profile collective article in a leading journal, collective book, etc.).

THE FUTURE

The 'IBISCA' brand will be retained in further projects. The IBISCA research group (ca. 100 scientists) will also get organized into an official network of biodiversity experts. The most pressing priority of the research group will be raising funding as to quickly complete the IBISCA-Panama project. Future priorities will be, among others, to persist with the IBISCA approach beyond the Panama project and to join new biodiversity-related projects. Improvement of future research needs: (a) considering parataxonomist help to facilitate future IBISCA-type projects; (b) focusing on the relations between biodiversity and ecosystem functions, disturbance, and climate change; and (c) designing better IBISCA-style projects to help answer ecological and evolutionary questions. The IBISCA research group also plans to organize several scientific meetings to discuss how to organize an ambitious Census of Tropical Rainforest Life (IBISCA-CTRL programme).

BIG CANOPY DATABASE WEBSITE RE-LAUNCH

*Kathryn Madson & Kris Dale
SciDB Lab, The Evergreen State College*

On November 15th, 2005, the Canopy Database Project, housed at The Evergreen State College, launched version 2 of The Big Canopy Database (BCD2). The BCD2 is a database-driven ecological reference site, funded by the National Science Foundation. It acts as a central resource for canopy related citations, images, events, and general canopy information. BCD2 has been re-engineered as a cleaner application with increased functionality and an improved user interface. The site has the same external architecture and feel of the previous version but with the much needed face-lift and internal overhaul. Future releases of the BCD will include a map-driven research site locator tool, a restructuring of the image gallery that will provide more information with improved navigation, and continued structural improvements. Look for improved usability and functionality in later releases of the BCD.

<<<http://canopy.evergreen.edu/bcd>>>