



Meg Lowman Books

It's a Jungle Up There : More Tales from the Treetops by Margaret D. Lowman, Edward Burgess, and James Burgess Yale University Press (March 11, 2006)
Forest Canopies by Lowman M.D. and H.B. Rinker Elsevier Press (2004)
Life in the Treetops : Adventures of a Woman in Field Biology by Margaret D. Lowman Yale University Press (June 10, 1999)

Websites

<http://www.canopymeg.com/>
<http://academic.evergreen.edu/projects/ican/ican/>
http://www.nationalgeographic.com/earthpulse/rainforest/index_flash.htm
<http://www.ran.org/> rainforest action network explore a rainforest at night
<http://www.ecokids.ca/pub/events/index.cfm> - eco calendar for kids
<http://rainforestheroes.com/> Kids site
<http://www.biodiversity911.org/FunandGames/funandgames.html> - fun and games for klds. World Wildlife Fund
<http://www.globalforestwatch.org/english/interactive.maps/> - make a map of world forests
http://treefoundation.org/canopy_education.htm tree research ,exploration and education
<http://www.envirolink.org/> - The EnviroLink Network provides access to thousands of online environmental resources
<http://www.nps.gov/learn/>

Films

Heroes of the High Frontier, National Geographic

Organizations to check out:

World Wildlife Fund www.worldwildlife.org
 Nature Conservancy www.nature.org
 Rainforest Alliance www.rainforest-alliance.org
 Wildlife Conservation International www.wcs.org
 National Park Service <http://www.nps.gov/>
 Become a junior ranger online (Spanish and English) <http://www.nps.gov/webrangers/>

Books

What's in the Rainforest? by Suzanne Ross (Enchanted Rainforest Press)
The Shaman's Apprentice by Lynne Cherry and Mark J. Plotkin (Harcourt Brace and Company)
The Great Kapok Tree by Lynne Cherry (Harcourt Brace and Company)



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The Art of Exploration

EXTRAORDINARY EXPLORERS AND CREATORS INSPIRE US ALL TO REACH OUR OWN POTENTIAL



temperate rainforest • tropical rainforest • virgin forest or primary forest • Amazon basin • alternatives • bamboo • canopy • conserve •

MARGARET DALZELL LOWMAN- “Canopy Meg”



Photo: Courtesy of Meg Lowman

Meg Lowman, also known as “Canopy Meg”, is an explorer of “canopies” or the tops of trees. She works high above the ground studying the plants and animals that live in all the different types of trees that grow in forests around the world. She explored canopies in Australia, Peru, Africa, the Americas, and the South Pacific. She was one of the first scientists to study forest canopies and built the first canopy walkway in North America. Canopy walkways provide a safe way for people to move in the treetops without falling or hurting the trees. She has taken her two sons with her on many of her expeditions around the world.

Conserve

To use less of something like gasoline or paper in order to save the natural resources it comes from. For example, conserving gasoline means less rainforest needs to be drilled for oil, and conserving paper means less trees need to be cut down to make paper.



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clear-cut logging • deforestation • ebony • endangered • extinction • fiber • food chain • habitat • harvest • indigenous peoples • jelutong • landfills

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What did you want to be when you were young?

When I was a child, I climbed trees in my backyard of upstate New York looking at bird nests, watching beetles eat leaves, and finding new discoveries in nature. I am grateful that my family allowed me to play outdoors and observe the natural world, because today not all children have this wonderful privilege of nature.

How did you decide to study canopies?

As a field biologist and now a grown-up, I discovered early in my career that no one knew very much about treetops. Most people walk through the woods, including scientists, and only look at the ground or the very lowest part of a tree trunk. In short, a whole world of discovery exists in the canopy! As a student, I sewed a harness and carved a slingshot to propel myself into the canopy using ropes and climbing hardware. As a pioneer in this field of science, I spent a lot of time designing ways to access the treetops safely and for long periods of time. Today, I have a small company and foundation (www.treefoundation.org) that builds canopy walkways around the world to aid conservation of forests. Walkways are not only great for research, but they are also important for eco-tourism and allowing people to learn and appreciate their local forests instead of cutting them down. Since my early days of using ropes and harnesses, I have since tried hot-air balloons, canopy walkways, construction cranes, tree-houses, cherry-pickers and other creative tools to enter into this magical world of the treetops.

What unusual things have you found in the trees?

Here exist millions of creatures, and probably more new species awaiting discovery than any other part of the earth. The canopy is sometimes called the “eighth continent” of the world, meaning that it is a new region for exploration. Scientists estimate that almost half of the world’s biodiversity lives in the treetops, and we probably have identified and named less than ten percent.

Forests

Forests cover one third of all the land on earth. There are three types of forests: tropical, temperate and boreal. More than half of all life is found in the forests. Much of the life is found in the treetops or canopies. Today forests are being cut down to make room for farms and domestic animals like cattle. Now only 20 percent of the old growth forests -- forests that have not been damaged by people -- are left. Hundreds of species have gone extinct because the forests are being cut down.

What is your favorite insect?

My favorite insect is the giant stinging tree beetle that lives in the treetops of the giant stinging tree in Australia. Despite the both physical and chemical defenses in the leaves of the giant stinging tree, this shiny green beetle is adapted to digest these leaves and eat them voraciously, consuming up to 40 percent of leaf area losses per year. Its gorgeous metallic green shell is camouflaged perfectly with the giant stinging tree leaf color. Another favorite is the walking stick or stick insect. It looks just like a beige branch of a tree, and can easily hide from predators. In Australia, walking sticks eat the foliage of many tree species, usually eating leaves of the same age, similar height, and the same toughness (to chew).

What advice do you have for young people?

I hope children will consider a career in science, because we need more explorers of the canopy!



This is the way researchers reach the tree tops to work.



Researchers can stay on the raft for a long time as the weight is spread by the raft and does not harm the trees.

What Lives in the Canopies?

Flowers, ferns, mammals, birds, reptiles, amphibians, insects, and bacteria all live high above the forest floor. Many species have developed special adaptations for living high up in the trees. Monkeys have tails to grasp branches. Sloths have special hooked feet so they can hang on branches; some lizards, mammals and snakes have evolved membranes that act like wings so they can glide between trees.

What Types of Plants Live in the Canopies?

- Epiphytes are plants living on other plants, deriving support but not nutrients from their host trees such as mosses, liverworts, and algae.
- Lianas, woody climbing plants rooted in the ground, climb up trees and twist around the tree trunks
- There are 23,000 species of orchids and half are Epiphytes.
- Bromeliads are epiphytes and they store water. They get their nutrients from leaves that fall into their wells and rot, releasing nutrients.
- Moss mats, moss mixed with plant roots and soil, grows between branches forming a platform for other plants, insects, and animals.

Why Do Scientists Study Canopies?

Scientists want to study the canopies because more than half of all plant and animal species live in the tops of trees. Many of these plants, insects, and animals never come down to the forest floor. There is much to learn from these species in the treetops.

Expedition to the Canopy

What to take to study the treetops: camera, film, light traps (to catch insects and animals for study), nets, hammock with mosquito netting attached, insect spray, notebooks, alcohol, first aid kit, clippers, tweezers, field guides, binoculars, and rope.

How Do Scientists Study the Forest Canopies?

1. They can study trees from the ground, collect samples of bark and leaves, and make maps of types of trees.
2. They can climb trees with a rope or rope ladders to get to the top.
3. On the tops of trees, scientists use arial walkways or platforms that link trees together. People can live on the top of trees for weeks.
4. Researchers use cranes to get above the trees to study them.
5. Scientists use hot air balloons to float above the trees
6. Scientists use special rafts that sit on top of the trees.