

# Herbivory in a Bromeliad of the Peruvian Amazon Canopy

James Burgess, Edward Burgess, Meg Lowman,  
& DC Randle



We measured herbivory in a common bromeliad growing in the upper canopy of the Peruvian Amazon. *Aechmea nallyi* had one host-specific herbivore, even though bromeliads are often considered too tough for insect consumption. Insect damage averaged x% over 4 years. We logged 560 human hours of observations, yielding only 8 sightings of this relatively rare nocturnal-feeding chrysomelid. Bromeliads and other epiphytes are considered “canaries in the coal mine” since they indicate the initial impacts from climate change, including insect outbreaks as a consequence of warmer, drier tropical forest conditions..

**Table 1.**  
Herbivory (% leaf area mined or missing) of *Aechmea nallyi* 1997

LEAF	PLANT					GRAND MEAN
	(1)	(2)	(3)	(4)	(5)	
1	7	20	5	5	4	
2	6	12	6	10	6	
3	8	8	4	12	12	
4	4	15	5	8	5	
5	6	20	3	15	8	
6	5	11	6	20	12	
7	4	8	8	9	8	
8	10	8	10	25	9	
9	9	12	8	4	8	
10	8	15	4	5	10	
<b>MEAN</b>	6.7	12.9	5.9	11.3	8.2	<b>GRAND MEAN</b> 9.0

As part of the Jason Expedition in 1999, a competition was launched to provide a common name for the herbivore on *Aechmea nallyi*. Although this is not a conventional way to name an insect species, it was instigated to encourage young students to take an interest in the science of taxonomy and a possible career in field biology. Over 950 schools responded over the Internet with nominations for names, and the winning entry was the Nutmeg Canopy beetle from Mrs. Baisch's Fifth Grade class in Ft. Myers, Florida. The name was derived from three factors:

- the nutmeg coloration of the beetle;
- the fact that this bromeliad often grows in the nutmeg tree (*Myristica sp.*); and
- the cryptic inclusion of Meg Lowman in the beetle's name.

Field research on bromeliads and measurements of herbivory create ideal working units for school classes and young scientists. The unique rosette structure of some bromeliads, and their ability to hold water, essentially create an above-ground swimming pool for different organisms to visit or inhabit. Bromeliads represent micro-ecosystems in the canopy.

[www.treefoundation.org](http://www.treefoundation.org)

[www.canopymeg.com](http://www.canopymeg.com) [www.jasonexpedition.org](http://www.jasonexpedition.org)

