LUQ: Insect Armageddon - or Not?

A TORTURED TALE OF THE MISUSE OF LONG-TERM DATA

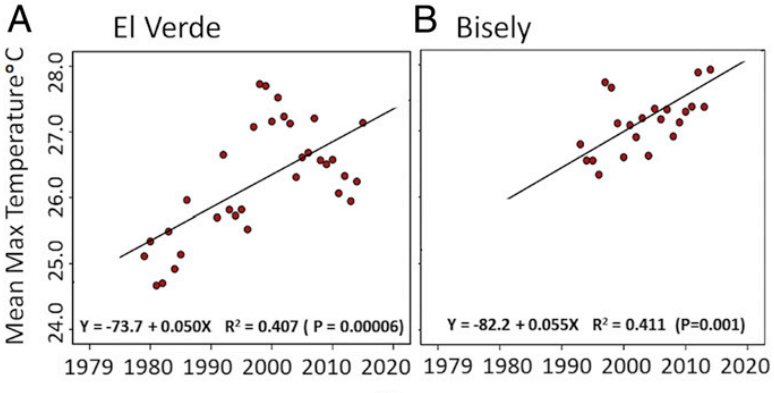
Climate-driven declines in arthropod abundance restructure a rainforest food web

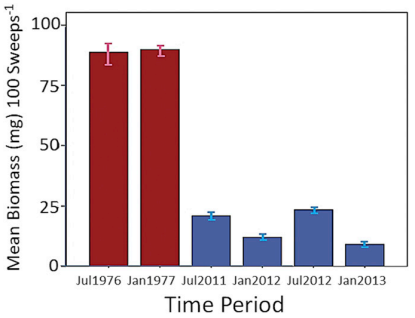
Bradford C. Lister[a,1] and Andres Garcia[b]

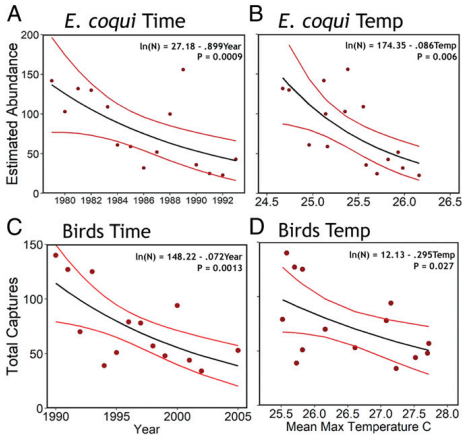
[a]Department of Biological Sciences, Rensselaer Polytechnic University, Troy, NY 12180; and [b]Estación de Biología Chamela, Instituto de Biología, Universidad Nacional Autónoma de México, 47152 Chamela, Jalisco, Mexico

Edited by Nils Christian Stenseth, University of Oslo, Oslo, Norway, and approved September 10, 2018 (received for review January 8, 2018)

1. L&G claim a 0.05° yr^{-1} increase in T over past decades using LUQ data.
2. Present data on insect biomass and abundance for 1976-77 vs. 2012-13 showing X% decline. Similar two point decline shown for Chamela (Mexico).
3. Linked these patterns to changes in abundance of canopy arthropods, walking sticks, coquies, and insectivorous bird using LUQ online data, claiming declines in all linked to temperature increase.
4. L&G conclude that there has been a collapse in food webs directly linked to global increase in temperature. Wow!





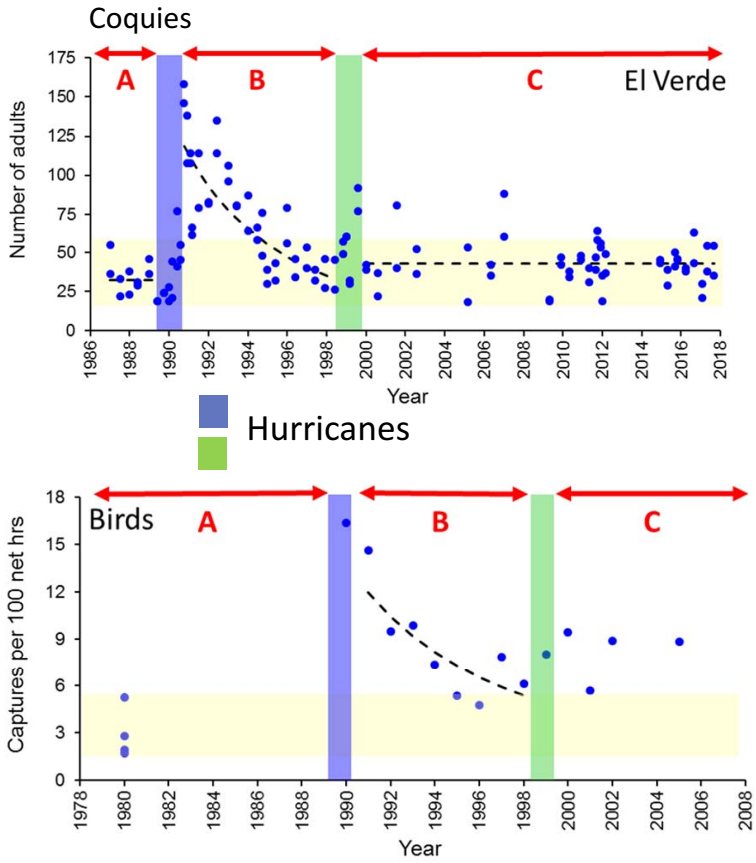


LONG-TERM POPULATION TRENDS IN EL YUNQUE NATIONAL FOREST (LUQUILLO EXPERIMENTAL FOREST) DO NOT PROVIDE EVIDENCE FOR DECLINES WITH INCREASING TEMPERATURE OR THE COLLAPSE OF FOOD WEBS

M.R. Willig, L. Woolbright, S.J. Presley, T.D. Schowalter, R.B. Waide, T. Heartsill Scalley, J.K. Zimmerman, G. González, and A.E. Lugo

(PNAS, in press)

1. Our published data suggest T is increasing @ 0.02° yr^{-1} not 0.05°.
2. Problematic T data set from El Verde (equip issues, subject to shading/sun exposure explained in metadata) was not handled honestly, but represents understory conditions.
3. We couldn't even locate their study site from lat. long. provided (aggrading forest???).
4. Most importantly, changes in abundances of organisms are more related to hurricane disturbance than global T.
5. Clear cut examples are coquies and insectivorous birds which increase following hurricanes because a) changes in breeding habitat or b) capture rates (lack of canopy).
6. Similar issues were raised on data sets for canopy arthropods and walking sticks. No relationship with temperature. Sad!



Implications for 40-year review:

1. Contributes to ongoing debate about Insect Armeggedon
2. Raises important issues about how to be a good data citizen (or not) in terms of the importance of citing and acknowledging sources of data.
3. Most importantly it makes clear the need to explain in detail how data are handled and analyzed so that results can be verified by others.

Site News:

We will be advertising for:

1. Site Information Manager
2. Site Manager

in the near future. Please suggest applicants.