

Jan. 24, 2009

Jody Haynes, President  
The Cycad Society

Dear Jody:

This letter introduces a grant proposal for field research during June and July 2009 in the human uses and knowledge of cycads in northeastern Mexico. As the primary investigator I will be working with geographers and biologists at the host institution, the Universidad Autónoma de San Luis Potosí in Mexico. My home institution is Delta State University, which will be informed of the progress of the grant but is aware that there are no allowable indirect costs.

Partial funding is acceptable for this grant. Certain expenses may be possible to cover via university travel funds, though the current budget situation for Mississippi public universities may end up precluding that.

Contact information is below.

Thank you.

Dr. Mark Bonta  
Associate Professor of Geography  
Division of Social Sciences  
Delta State University  
Cleveland, MS 38733

# Human Geography and Ethnobotany of Cycads in Xi'iuy, Teenek, and Nahuatl communities of northeastern Mexico

## **a. Abstract**

Mark Bonta and researchers from the Universidad Autónoma de San Luís Potosí led by Javier Fortanelli Martínez and Miguel Aguilar Robledo will visit indigenous communities in northeastern Mexico during summer 2009 to study relationships between maize and cycads as well as other ethnobotanical topics related to cycads.

## **b. Description of the project**

The human dimensions of cycad botany and geography have infrequently been the subject of papers and lengthy field and archival investigations (e.g. Beck 1992, Bonta 2007, Bonta and Osborne 2007, Read 1986, Thieret 1958, Whiting 1963). People cultivate or harvest from the wild both Old World and New World cycads and cycad parts for purposes that include ornamentation, religious ceremony, medicine, and diet. By all indications, cycads have been used for millennia by traditional societies across the world as dietary staples, commonly as supplements to domesticates such as maize.

The consumption of cycad parts – leaves, cone parts, and stems – both raw and cooked is linked in certain cases, most famously with *Cycas micronesica* in Guam, to human neurological disorders. Cycads contain a range of deadly toxins, so their widespread and continuing use for food raises many questions, particularly since most anecdotal data show that properly prepared cycad foods do NOT result in obvious intoxication in humans (e.g. Bonta et al. 2006).

The consumption of cycads in traditional societies is commonly linked to their cultural significance, yet in few cases are the linkages well understood. Bonta et al.'s 2006 study of *tiusinte* (*Dioon mejiae*) in Honduras was the first to document the material uses of a New World cycad species in a local culture and relate this directly to religious significance as well as to conservation. Since the completion of fieldwork in Honduras, Bonta has collaborated with Mexican researchers in Oaxaca and Hidalgo states to continue in-depth investigation of the relationships between people and Zamiaceae cycads. Little has been published on this topic in Mexico, despite the richness of the cycad flora as well as its overlaps with indigenous societies. A study of the uses of *Dioon merolae* in Chiapas among the Chiapaneco (Pérez-Farrera & Vovides 2006) is the only major contribution to the literature thus far. The following summary of main points relevant to the proposed research in northeastern Mexico is based on archival research undertaken by Bonta in Oaxaca, at the University of Texas-Austin, and elsewhere, as well as the following published sources (Alcorn 1984, Alcorn et al. 2006, Berlanderi and Chovel 1849, Byers 1967, Chemin Bassler 1984 and 2000, Hernandez 1946, Kempton and Popenoe 1937, López de la Cámara Alta 2006, Macneish 1958, Stresser-Péan 2000, Stross 2006, Vázquez

Torres 1990, Wauchope and Kislak 1964) 2008 field research in Hidalgo and Oaxaca, and personal communication with several cycad experts both within and outside Mexico.

1. Cycads –primarily *Dioon* but also *Ceratozamia* and, rarely, *Zamia* – are used principally in religious ceremonies, such as Easter Week (Semana Santa). Leaves in both indigenous and mestizo communities are valued for decorations of homes, church facades, altars, costumes, and so forth, across Mexico. The systematic study of this phenomenon has barely begun; Aurelia Vite’s undergraduate thesis work in Hidalgo (Universidad Autónoma de Hidalgo), ongoing, is the first full regional study, to this author’s knowledge; Pérez-Farrera and Vovides (2006) is the first complete ethnographic account of one tradition. The use of leaves has faded to an extent in many areas, but is still important in many others.
2. Cycads are still used commonly for food among at least three Mexican ethnic groups – the Xi’iuy, formerly known as Pame, of San Luis Potosí and Querétaro states, the Mixrtec of Oaxaca, and the Chinantec of Oaxaca. In all cases, but particularly among the Xi’iuy, there are strong similarities to cycad consumption in Honduras. It is probable that several other ethnic groups still consume cycad parts in Mexico as food or beverage.
3. Minor current uses of cycads include for medicinal reasons, as an ink substitute, as toys, and to make temporary signs (out of the leaves).
4. The first documented use of cycads in Mexico is approximately 6,000 years ago, in remains found in the Coxcatlán Rock Shelter (cave) in the Tehuacán Valley, in association with the remains of other wild plants as well as the world-famous oldest examples of domesticated maize. *Dioon purpusii* was used continuously there for food for several millennia. Another major early maize site, the Sierra de Tamaulipas, includes *Dioon angustifolium* remains as a dominant component of the diet from 4,000 years ago, continuing up to historical times. In both regions, there are cycad populations nearby. This cycad consumption compares favorably to early *Zamia* consumption documented in Panama and the Caribbean and to evidence from the Old World as well.
5. After European contact, there is a slight but significant record of cycad consumption in Mexico, with reports focused on northeastern Mexico: the ‘teocentli’ from Huayacocotla, Veracruz of Francisco Hernández mentioned in the 1570s, and published reports from at least the 1700s, onward to the present day, of consumption of ‘chamal’ —*Dioon edule* and *angustifolium* – across much of northeastern Mexico.
6. The term ‘teocintle’ (written ‘tiusinte’ in Honduras) has been the source of much confusion. It is a Nahuatl term that means ‘sacred ear’ and signifies a sacred precursor of the maize ear. Though it has been adopted worldwide as the standard term (as ‘teosinte’) for various *Zea mays* subspecies thought to be the progenitors of domesticated maize (ranging from central Mexico to Nicaragua), it is only used locally and traditionally in this sense in eastern Guatemala and southward through Central America. Elsewhere in Central America, ‘teosintle’ may also refer to *Tripsacum*, and in northeastern Honduras (and possibly northern Nicaragua), it refers uniquely to *Dioon mejiae*. In Mexico, though

it has been widely reapplied to *Zea mays* ssp., it refers in traditional context to a yet unspecified plant on the Pacific slope in Guerrero and Jalisco, and in northeastern Mexico, among the Nahuatl and mestizos of Hidalgo and San Luis Potosí, and probably northern Veracruz, to at least one and probably several *Ceratozamia* species, as well as to *Zamia vazquezii*.

7. Northeastern Mexico and northeastern Honduras are at opposite extremes of Mesoamerica, yet only at these extremities are cycads considered in some sense sacred progenitors of maize, and consumed in the same ways that maize is consumed (tamales, tortillas, atoles), with many other cultural comparisons made between maize and cycads in both regions. For example, among the Teenek of San Luis Potosí, *Zamia vazquezii* is called ‘Thipaak’ and is considered to embody Thipaak, the mythological boy who brought maize to these northernmost of Maya people, and thus eliminated their dependence on Ojox (*Brosimum alicastrum*). Among the Teenek as well as among the Nahuatl of the region (known as the Huasteca), cycad-maize connections are profuse: presence and coning of zamias and ceratozamias in milpas have protective functions (as ‘maize shepherds’), herald a good maize harvest, and at least until recently were used in ceremonies to save an endangered harvest. At least formerly, zamia and ceratozamia parts were consumed as well, often in conjunction with maize. As mentioned above, *Dioon edule* is still consumed by Xi’iuy in the region.
8. In other parts of Mexico, consumption of cycads appears to have largely died out more than 50 years ago, and today is associated primarily with bad memories of maize scarcity.
9. Northeastern Mexico is thus the only region of the country that combines a wide range of living traditions of cycad use with a documentary record stretching back to pre-Conquest times. All three indigenous groups mentioned above maintain their languages, and in the case of the Xi’iuy, researchers at the UASLP are already engaged in a research project that includes *Dioon edule* ethnobotany.

A central question that emerges from Mesoamerican interaction with cycads over the past 6,000 years is to what extent were cycads involved in human domestication of maize? The proposed project seeks to delve into the ethnological record both current and historical to begin to answer this question. Why is this important? Maize research has focused, understandably, on the genetic heritage of the world’s foremost food crop, but it has neglected or misinterpreted the wider cultural/symbolic underpinnings of maize domestication. The role of cycads has been completely ignored until now, and even their presence in two of the most important sites for evidence of early maize domestication has, to this author’s knowledge, never been cited in the literature beyond the first reports made. The term ‘teosinte’ applied to cycads has never been more than a curiosity, as researchers have generally ignored the many parallels that the two groups of plants – *Zamiaceae*, and *Zea* – have. Most obviously, these are the appearance of the cones – in the case of some zamias, they appear virtually identical to maize ears. The symbolic role of *Zamia* – as Teenek – in an important set of mythological accounts – has also been glossed over.

The primary goal of this project is to interview the oldest and most knowledgeable people specifically about cycad uses and beliefs, among the Xi'iuy, Nahuatl, and Teenek ethnic groups. All permits for research in indigenous communities will be procured by UASLP. Ethnographic interviews will be conducted in the informants' maternal languages, and will be tape-recorded or (preferably) videotaped where allowable. Our goal is to interview a minimum of 10 people from each ethnic group, using unstructured, open-ended techniques that seek, in the course of conversation, to delve into the informants' complete knowledge of cycads. Where possible, we will seek to supplement these interviews with demonstrations of food preparation, visits to local cycad populations, and discussions with community leaders and other members of the community.

Interviews will be transcribed and translated in a timely fashion by researchers at the UASLP.

Visits to two other places are planned: to the *Dioon angustifolium* population in the Sierra de Tamaulipas, associated with the MacNeish excavations; to Huayacocotla, Veracruz, the place cited by Hernandez for presence and use of 'teocentli', presumably a *Ceratozamia*.

In no case will the P.I. collect from or disturb any cycad population. Accompanying researchers will, however, make note of cycad populations seen, or mentioned by local informants, and these data will be relayed to a small group of cycad botanists within the country. It is understood that ALL data regarding cycad locations will be kept confidential.

This project also includes a planning phase for future, large-scale research on the human geography and ethnobotany of cycads in northeastern Mexico, which this researcher and the UASLP are keen on pursuing. To that end, preliminary mapping of cultural uses of cycads in the region, and identification of major archival sources (land grant titles, geographic relations, and so forth, relevant to the region), will be a priority. This project will thus serve as a type of feasibility study for what may become the first-ever multidisciplinary research effort in the human relationship with cycads that looks at the cultural landscape of a region over time; other major cycad studies have not had access to historical or archaeological data, or have only focused narrowly on one topic of interest (toxicology of *C. micronesica* in Guam, for example).

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- Bonta, M., O. Flores Pinot, D. Graham, J. Haynes & G. Sandoval. 2006. Ethnobotany and conservation of tiusinte (*Dioon mejiae* Standl. and Williams). J. Ethnobiology 26:228-257.

- Bonta, M. & R. Osborne. 2007. Cycads in the vernacular—a compendium of local names. In A.P. Vovides, D.W. Stevenson & R. Osborne (eds), *Proceedings of the Seventh International Conference on Cycad Biology* (Xalapa, Mexico, 2005). *Memoirs of the New York Botanical Garden* 97: 143–175
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- Hernandez, Francisco. 1946. *Historia de las plantas de la Nueva Espana, Tomo III.* México: Imprenta Universitaria, UNAM. Libro VI. P. 866: Chap. XLI. Del teocintli o tepecintli, o sea espiga montes de maiz
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### **c. Statement of how the project fits the interests of TCS**

The Cycad Society has demonstrated a sustained interest in cycad ethnobotany, and the proposed project fits clearly with its mission.

### **d. Proposed timetable for entire project from start date to completion date**

- Prior to May 1 2009, if possible (or immediately following receipt of grant): purchase of transport tickets
- May 1 – June 15. Preparation of permits (UASLP), finalization of field schedule, and purchase of materials for the field
- June 16 – July 28. Field visit to San Luis Potosi. Visit will begin and end with at least three days each at the university. The rest of the time will be spent in two week increments visiting communities of the Xi'iuy (Pame), Teenek (Huastec Maya), and Nahuatl and conducting ethnographic interviews. The Nahuatl community of Huayacocotla in Veracruz, and the Sierra de Tamaulipas, will also be visited
- July 29 – December 31: Fieldnotes will be organized and interpreted; a report to the Cycad Society will be prepared, along with an article for the *Cycad Newsletter*. All obligations will be fulfilled by the end of 2009.

**e. Detailed budget for the entire project**

- |   |           |
|---|-----------|
| 1. Round-trip transport Cleveland, MS – San Luis Potosí | \$800.00  |
| 2. Lodging in MX, 37 nights x \$30                      | \$1110.00 |
| 3. Food in MX, 38 days x \$15                           | \$570.00  |

(All expenses are Bonta's)

**f. All other sources from which funds are currently being sought for the proposed project**

Other funds per se are not being sought.

**g. Any support already confirmed or received**

UASLP will provide food and lodging for its investigators and will also cover transport in the field.

**Dr. Javier Fortanelli Martínez**

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Instituto de Investigación de Zonas Desérticas  
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**Dr. Miguel Aguilar Robledo**

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**h. Amount being requested through the application**

\$2480.00

# MARK BONTA

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## EDUCATION

**Ph.D. in Geography, Louisiana State University (2001).** Dissertation: "Mapping Enredos of Complex Spaces: A Regional Geography of Olancho, Honduras." Committee: Miles Richardson (chair); Craig Colter; William V. Davidson; Kent Mathewson; John Protevi.

**M.A. in Geography, University of Texas-Austin (1997).** Thesis: "Shared Worlds: Birds and People in Central Olancho, Honduras." Committee: Robin Doughty (chair); Gregory Knapp; Ian Manners.

**B.A. in Geography, Pennsylvania State University-University Park (1990).**

## PROFESSIONAL EMPLOYMENT HISTORY

Delta State University: Associate Professor of Geography (with tenure)	2008--present
Delta State University: Assistant Professor of Geography	2001 – 2008
Louisiana State University: Board of Regents Fellow & PhD candidate in Geography	1997 – 2001
University of Texas-Austin: M.A. candidate in Geography	1996 – 1997
Peace Corps Technical Trainer, CHP International, Honduras	1995 – 1996
University of Texas-Austin: University Fellow & M.A. candidate in Geography	1994 – 1995
US Peace Corps Volunteer (Natural Resources Sector), Juticalpa, Honduras	1991 – 1993
National Audubon Society, Washington, DC: Assistant to Grassroots Director and Intern to International Programs	1990 – 1991

## HONORS & FELLOWSHIPS

Montgomery Research Fellow (Montgomery Botanical Center, Miami, FL)	2004 - 2005
Delta State University Foundation Faculty Scholarship Award	2005
Josephine A. Roberts Distinguished Dissertation Award in the Arts, Humanities, and Social Sciences, Louisiana State University	2002
LSU Board of Regents Fellow	1997 – 2001
University Fellow, University of Texas-Austin	1994 – 1995

# Research

## BOOKS

**Bonta, M. 2003.** *Seven Names for the Bellbird: Conservation Geography in Honduras.* Texas A&M Press, College Station.

Reviewed in *Birder's World*, Oct. 2003:18; *Birding, the bimonthly magazine of the American Birding Association*, April 2004:36(2):94, (B. Beehler); *Condor*, 2005:107(4):937-938 (D. L. Swanson & A. O. Panjabi); *SIDA*, 2003:20(4):1788-1789 (T. Franklin); *Winging It*, November 2003:10 (E. Salzman)

**Bonta, M. and J. Protevi. 2004.** *Deleuze and Geophilosophy: A Guide and Glossary.* Edinburgh University Press & Columbia University Press, 2004.

Reviewed in *Area*, Dec. 2005:37(4):460-461 (K. Woodward); *Choice* (American Library Association), Mar 2005 (J. K. A. Smith); *Continental Philosophy Review*, July 2004:37(3):375-381 (D. Smith); *Ethics, Place & Environment: A Journal of Philosophy & Geography*, 2007:10(2):245-255 (J. Anderson, U. Mühe, D. Trigg, N. Andersen, C. Ott); *Journal of the British Society for Phenomenology*, May 2006:37(2): 221-222 (J. Bell); *Journal for Cultural and Religious Theory*, Winter 2005: 7(1)131-134 (B. Buchanan); *Newsletter of the Environmental Studies Association of Canada*, May 2005:14(2):17 (C. O'Hara); *Progress in Human Geography*, 2005:29(1) (N. Thoburn)

## REFEREED ARTICLES & CHAPTERS; BOOK REVIEWS

Forthcoming (accepted for publication, 2009 or 2010):

Bonta, M. 'The Dilemma of Indigenous Identity Construction: The Case of the Newly-Recognized Nahoia of Olancho, Honduras.' Proceedings of the Conference of Latin American Geographers, Morelia, MX, 2005. Universidad Nacional Autónoma de México

Bonta, M. 'Thoughts on the geography in birding.' *Geographical Review* (special issue on ornithogeography, ed. M. Steinberg)

Bonta, M. 'The multitude and its doppelgänger: An exploration of global smooth space.' *ACME: An International E-journal for Critical Geographies* (in "Geographies of the Multitude" special issue, ed. S. Engel-DiMauro)

Bonta, M. 'On the transmutation of human knowledge about birds in 16th-century Honduras.' Chapter 9 in S. Tidemann, A. Gosler, & B. Gosford, eds. 'Ethno-ornithology and indigenous peoples' London, UK: Earthscan Publications.

Bonta, M. 'Ethno-ornithology and conservation.' Chapter 2 in 'Ethno-ornithology and indigenous peoples', S. Tidemann, A. Gosler, & B. Gosford, eds. London, UK: Earthscan Publications.

Published:

- **Bonta, M. 2008.** On Olancho: Geographers, spatial identities, and the construction of a region. P. H. Herlihy, K. Mathewson, & C. S. Revels, eds., 'Ethno- and Historical Geographic Studies in Latin America: Essays Honoring William V. Davidson.' *Geoscience and Man* 40:193-206. LSU: Geoscience Publications
- **Bonta, M. 2008.** Invited review of *Deleuze and Environmental Damage: Violence of the Text* (M. Halsey, Ashgate, Advances in Criminology series, 2006). *Geographical Review* 98(4):573-576

- **Bonta, M. 2008.** Valorizing the relationships between people and birds: Experiences and lessons from Honduras. *Ornitologia Neotropical* 19(Suppl.), The Neotropical Ornithological Society
- **Bonta, M. 2007.** Ethnobotany of Honduran cycads. In A.P. Vovides, D.W. Stevenson & R. Osborne (eds), Proceedings of the Seventh International Conference on Cycad Biology (Xalapa, Mexico, 2005). *Memoirs of the New York Botanical Garden* 97: 120–142
- **Bonta, M. & R. Osborne. 2007.** Cycads in the vernacular—a compendium of local names. In A.P. Vovides, D.W. Stevenson & R. Osborne (eds), Proceedings of the Seventh International Conference on Cycad Biology (Xalapa, Mexico, 2005). *Memoirs of the New York Botanical Garden* 97: 143–175
- **Haynes, J.L. & M. Bonta. 2007.** An emended description of *Dioon mejiae* Standl. In A.P. Vovides, D.W. Stevenson & R. Osborne (eds), Proceedings of the Seventh International Conference on Cycad Biology (Xalapa, Mexico, 2005). *Memoirs of the New York Botanical Garden* 97: 418–443
- **Bonta, M. 2007.** Deleuze and Space, invited review. (Eds. I. Buchanan & G. Lambert, U Toronto Press, 2005), *Annals of the Association of American Geographers* 97(4): 811-813
- **Bonta, M., O. Flores Pinot, D. Graham, J. Haynes, & G. Sandoval. 2006.** Ethnobotany and conservation of *Tiusinte* (*Dioon mejiae* Standl. & L. O. Williams, Zamiaceae) in Northeastern Honduras. *Journal of Ethnobiology* 26(2): Fall/Winter.
- **Bonta, M. 2005.** 'Geography' (pp. 243-246) & 'Lefebvre, Henri' (pp. 356-357). Entries in the *Edinburgh Dictionary of Continental Philosophy*, Edinburgh University Press (J. Protevi, ed.). Published by Yale University Press as *A Dictionary of Continental Philosophy*, 2006
- **Bonta, M. 2005.** Becoming-forest, becoming-local: Transformations of a protected area in Honduras. *Geoforum* 36(1):95-112. In special themed issue, 'Critical Geographies of the Caribbean and Latin America' (Eds. P. Kingsbury & B. Sletto)
- **Bonta, M. 2004.** Death toll one: An ethnography of hydropower and human rights violations in Honduras. *GeoJournal* 60(1):19-30. In special themed issue, 'Interrogating the Globalization Project' (Ed. R. Honey)
- **Bonta, M. 2002.** Jealous conservationists: Terratenientes and wildlife protection in Olancho, Honduras. In 'Cultural and Physical Expositions: Geographic Studies in the Southern United States and Latin America' (Eds. M. Steinberg & P. Hudson), *Geoscience and Man* 36:87-95. LSU: Geoscience and Man Publications
- **Bonta, M. 1999.** Jesús Aguilar Paz (1895-1974): Retrato de un geógrafo hondureño. *Revista de la Academia Hondureña de Geografía e Historia* 70:48-56
- **Anderson, D., P. Thorn, M. Bonta. 1999.** New and noteworthy bird records from Honduras. *Bulletin of the British Ornithologists' Club* 118(3):178-83

### **MANUSCRIPT REFEREEING**

*Annals of the Association of American Geographers* (2005, 2006); Allyn & Bacon Pub. (2007); *Cotinga* (2006); *Geographical Review* (2008); *HortScience* (2006); *Journal of Latin American Geography* (2003); Louisiana State University Press (2006); McGraw Hill Press (2007); *Mesoamerica* (2008); *Micronesica* (2006); *Ornitologia Neotropical* (2008); *Planning Theory* (2007); *Political Geography* (2005); *Professional Geographer* (2003, 2005)

## **INVITED EXTRAMURAL PRESENTATIONS**

- Geografía humana y conservación de cícadas. Presentation to the Oaxaca Ethnobotanical Garden, Oaxaca, Mexico, 2008
- Geography/Bees: A conversation on methodologies, representations, and popular education with the Beehive Design Collective, panelist, Association of American Geographers Conference, San Francisco, 2007
- Mitch, Katrina, and the human geography of hurricanes. Mississippi Museum of Natural Science, Naturalist Lecture Series, Jackson, MS, 2006
- Seminar on Geophilosophy for the Lennart Andersson Annual Symposium, Department of Geography and Tourism, University of Karlstad, Sweden, Dec. 8. Included Plenary Lecture 'Deleuze – Implications for Geography,' 2005
- Authors meet critics: Mark Bonta and John Protevi's Deleuze and Geophilosophy, A Guide and Glossary. Special session, Association of American Geographers conference, Denver, 2005
- Human geography of cycads. Brown Bag Luncheon, Department of Biological Science, Florida International University, Miami, 2005
- MBC and the human geography of cycads. Presentation to the Montgomery Botanical Center, Miami, 2005
- Post-conflict landscapes. Discussant for special session, Association of American Geographers conference, Denver, 2005
- Participative and ethnographic methods in Latin Americanist cultural geography, panelist, Association of American Geographers Centennial Conference, Philadelphia, 2004
- 35 Years after Monroe: Birds and birding in Honduras. Banquet presentation for Spring meeting, Louisiana Ornithological Society, Cameron, LA, 2003
- Cycads and the cultural geography of municipal patrimonio in Olancho, Honduras. Geography Colloquium, University of Southern Mississippi, Hattiesburg, 2003
- The cultural geography of *Dioon mejiae* in Honduras. Presentation to the Montgomery Botanical Center, Miami, FL, 2003
- Death toll one: Intimate impacts of regional integration through the privatization of hydroelectric power in Honduras. Paper given at the 'Interrogating the Globalization Project conference,' University of Iowa, Iowa City, 2001

## **OTHER PRESENTATIONS**

### Extramural:

- Straining toward Deleuze in the buffer zone, 1st International Deleuze Studies Conference, Cardiff, Wales, UK, 2008.
- Cycads, death, and rebirth: A symbolical interpretation, 8th International Congress on Cycad Biology, Panama City, Panama, 2008
- Valorizando las relaciones entre la gente y las aves: Experiencias y lecciones de Honduras / Valorizing the relationships between people and birds: Experiences and lessons from Honduras, VIII Neotropical Ornithology Congress, Maturín, Venezuela, 2007
- Covert Geographies?, Association of American Geographers Conference, San Francisco, 2007
- Cycads in the vernacular: a world compendium of local names. Paper given at the 7th International Congress on Cycad Biology, Xalapa, MX. With R. Osborne, 2005

- Deleuze, Al Qaeda, and the multitude. Paper given at the Association of American Geographers conference, Denver, 2005
- Ethnobotany of Honduran cycads. Paper given at the 7th International Congress on Cycad Biology, Xalapa, MX, 2005
- Geography & schizophrenia: Deleuzification of the discipline? Paper given at 'Deleuze and Science' special session, Society for Literature, Science, and the Arts 19th annual conference ('Emerging systems, cognitive environments'), Chicago, 2005
- Nahoa in Honduras: Rediscovery or construction? Paper given at Conference of Latin Americanist Geographers meeting, Morelia, MX, 2005
- Redescription of *Dioon mejiae*: toward a taxonomic description standard (with J. Haynes). Paper given at the 7th International Congress on Cycad Biology, Xalapa, MX, 2005
- Anarchism and geography: Past issues and current opportunities, panelist, Association of American Geographers Centennial Conference, Philadelphia, 2004
- Deconstructing self-evident Central American spaces. Paper given at the Association of American Geographers Centennial Conference, Philadelphia, 2004
- El nuevo mapa biogeográfico de Honduras: Presentación y utilidad. Paper given at the VII Congreso, Sociedad Mesoamericana para la Biología y la Conservación, Tuxtla Gutierrez, Chiapas, MX, 2003
- Etnobotánica de la cícada arborescente *Dioon mejiae* en Honduras. Paper given at the VII Congreso, Sociedad Mesoamericana para la Biología y la Conservación, Tuxtla Gutierrez, Chiapas, MX, 2003
- Smooth spaces for a 'New American Century.' Panel presentation for 'Deleuze I: Deleuze & Guattari's New Earth, Hardt & Negri's New Communism.' Association of American Geographers conference, New Orleans, 2003
- The other teocinte: Cultural geography of the endemic tree cycad *Dioon mejiae* in Olancho, Honduras. Paper given at the Conference of Latin Americanist Geographers, Tucson. With D. Graham, 2003
- Teaching the geography of terrorism: lessons and results of a Fall 2002 DSU Class. Paper prepared for the session 'Terror in the 21st Century' at the Mississippi Political Science Association meeting, Cleveland, MS, 2003
- Blaming the victim: Observations on Hurricane Mitch in Olancho. Paper given at the Association of American Geographers conference, Los Angeles, 2002
- Becoming-forest in the state's domain: A rhizomatic geography of complex spaces in Honduran protected areas. Paper given at the Association of American Geographers conference, New York, 2001
- Toward a geography of complex spaces. Paper given at the Southeastern Division, Association of American Geographers meeting, Lexington, KY, 2001
- Forest space. Paper given at the Association of American Geographers conference, Pittsburgh, 2000
- Enveloping developing: A meditation. Paper given at the Association of American Geographers conference, Boston, 1998
- Jealous conservationists: Terratenientes and wildlife protection in Olancho, Honduras. Paper given at the Southwestern Division, Association of American Geographers meeting, Baton Rouge, 1998

- Jesús Aguilar Paz: Mystical humanist geographer. Paper given at the Conference of Latin Americanist Geographers meeting, Santa Fe, NM, 1998
- ¿Qué hacen los geógrafos? Paper given at the Sociedad Mesoamericana de Biología y Conservación congress, Managua, Nicaragua, 1998
- El corredor altitudinal entre la Cordillera de Agalta y la Reserva de la Biosfera del Río Plátano: Su importancia para la biodiversidad y la conservación. Paper given at the Sociedad Mesoamericana para la Biología y la Conservación congress, Tegucigalpa, Honduras. With F. Urbina, 1995
- Encuentros entre la gente y las aves en el ambiente rural doméstico de Honduras: Implicaciones para la conservación. Paper given at the Conference of Latin Americanist Geographers meeting, Tegucigalpa, 1995

#### Intramural:

- The Ivory-billed Woodpecker: Environmental history and recovery potential in the Yazoo-Mississippi Delta (w/ James Stallings). Paper given at the 4th annual Faculty Research and Scholarship Symposium, Delta State University, 2007
- Politics and public memory in the post conflict landscape of Central America (w/ S. Lamb). Paper given at the 3rd annual Faculty Research and Scholarship Symposium, Delta State University, 2007
- Role-playing games in geography education. Paper given at the ROMEA Faculty Development Conference on Teaching in Higher Education, Delta State University, 2007
- Ivory-billed Woodpeckers in Bolivar County, Mississippi. Presentation given at the 2nd annual Faculty Research and Scholarship Symposium, Delta State University, 2006
- Dinosaur salad: In search of cycads in Honduras. Presentation at the faculty research and scholarship symposium, 2005, Delta State University

#### **EVENTS ORGANIZED/CHAIED**

#### Extramural:

- Ethnobotany of Cycads, workshop co-chair, with J. Haynes, 8th International Congress on Cycad Biology, Panama City, Panama, 2008
- Exploring bird conservation by indigenous peoples: Insights for biocultural conservation, paper session co-chair (with L. Cabrera), VIII Neotropical Ornithology Congress, Maturín, Venezuela, 2007
- Colombian and covert geographies, paper session chair, Association of American Geographers Conference, San Francisco, 2007
- Geographies of the multitude. Co-chair and co-organizer of paper session, Association of American Geographers conference, Denver, 2005
- Honduran Cycad Study Tour. Co-organizer and leader, with J. Haynes, Montgomery Botanical Center, Miami FL, 2005
- Honduran cycads. Workshop co-organizer. 7th International Congress on Cycad Biology, Xalapa, MX, 2005
- Anarchism and geography: Past issues and current opportunities. Co-chair of panel, Association of American Geographers conference, 2004

- Mapping diversity and resilience: Geographic perspectives on Central America. Organizer & chair, paper session, Association of American Geographers conference, 2004
- The spatiality of empire and the politics of scale. Co-organizer of panel session, Association of American Geographers conference, New Orleans, 2003
- Where the blues was born: Cultural geography of the Yazoo-Mississippi Delta. Co-organizer and co-leader of field trip, Association of American Geographers conference, New Orleans, 2003
- Violaciones: Critical perspectives on regional integration in Honduras. Co-organizer of paper session at Association of American Geographers conference, Los Angeles, 2002
- Deleuze, Guattari, and geography. Chair and co-organizer of paper session at the Southeastern Division, Association of American Geographers meeting, Lexington, KY, 2001

Intramural:

- Member, organizing committee, 4th annual DSU Faculty Research and Scholarship Symposium, 2008
- Organizer and chair of 2nd annual DSU Faculty Research and Scholarship Symposium, 2006
- Organizer and chair of 1st annual DSU Faculty Research and Scholarship Symposium, 2005
- Organizer of 'World Conflict, Local Response: The Role of Religion in War and Peace' (symposium), Delta State University, 2002
- Organizer of 'Waging War, Waging Peace' (symposium), Delta State University, 2001

## FUNDED RESEARCH/TRAVEL

### Extramural:

- Ethnobotany of Oaxacan cycads, 2008. Funded in part by DSU and in part by SERBO, the Sociedad para el Estudio de los Recursos Bióticos de Oaxaca (MX)
- Population dynamics and ethnobotany of cycads, Hidalgo, Mexico, 2008. Funded in part by DSU and in part by the Universidad Autónoma del Estado de Hidalgo
- Ethnobotany of cycads. Research visit to Montgomery Botanical Center, Fairchild Tropical Botanic Garden, and Florida International University, Miami, FL. Funded by Montgomery Research Fellow grant, 2005
- Inventario del Pájaro Campana, *Procnias tricarunculata*, en la Sierra de Agalta, Honduras.' Co-wrote \$50,000 grant with Oliver Komar (P.I., U. Kansas/SalvaNatura) for multi-year population study of Three-wattled Bellbird, focused on breeding and migratory patterns. 1st phase (2005-2006) fully supported by USAID biodiversity funds, via Manejo Integrado de Recursos Ambientales (MIRA) project
- Cycads of Honduras Study Tour. Multi-investigator research visit, funded by Montgomery Botanical Center (\$1,987), coord. by J. Haynes & M. Bonta. Counterpart: Secretaría de Recursos Naturales y Ambiente, Hond. 2005
- Montgomery Botanical Center Honduras 2003 Cycad and Palm Expedition (\$8,500). Organized and led 6-wk. research expedition. Counterpart: Herbario Nacional TEFH, Universidad Nacional Autónoma de Honduras. 2003

### Intramural:

#### *Delta State University*

- Cultural Geography of *Dioon merolae*. Field research, Chiapas, MX (2003)
- Division of Social Sciences grants to attend professional meetings (2001, 2002, 2003, 2004, 2006, 2007, 2008); for archival research at UT-Arlington (2004)
- Research grant from Office of Academic Affairs, to attend Conference of Latin Americanist Geographers meeting, Morelia, MX (2005)
- Research grants (3) from Office of Academic Affairs (2005; 2008). For cycad research and meetings in Honduras & Mexico
- Research Committee Mini-Grants to attend professional meetings (2001-2007)

#### *Louisiana State University*

- Robert C. West Field Research Grant (1998). For dissertation feasibility research in Honduras

# Teaching

*Position: Associate Professor of Geography (with tenure), Division of Social Sciences, Delta State University, Cleveland, MS, May 2008 – present. Normal teaching load: four classes during fall semester & four classes during spring semester; overload online, intersession, and summer session classes also regularly taught*

## **COURSES TAUGHT**<sup>1, 2</sup>

### Introductory Undergraduate Classes

- *Introduction to Human Geography*, GEO 201, 41x
- *Physical Geography*, GEO 202, 7x
- *World Regional Geography*, GEO 303, 32x

### Upper-level Undergraduate / Graduate Combined Seminars

- \**Cultural Geography*, GEO 405/505, 3x
- \**Political Geography*, GEO 406/506, 3x
- \**Economic Geography*, GEO 407/507, once
- \**Geography of Terrorism*, GEO 430/530, 3x
- \**Geography of Africa*, GEO 448/548, 2x
- *Geography of Latin America*, GEO 446/546, once
- \**Vietnam: Politics and Policy* (Geo. of Asia/Pacific, GEO 449/549, team-taught w/ G. Jennings, PSC 492), once
- \**Geography, Mysticism, and the Occult*, GEO 492/592, once
- \**Geography of Natural Hazards*, GEO 492/592, once
- \**History of Geographical Thought*, GEO 492/592, once

### Graduate Seminars

- \**Professional Geography*, GEO 680, 4x
- \**Advanced International Study*, GEO 685, once
- \**Advanced Research Methods in Geography*, GEO 690, once

### Field-based Courses<sup>3</sup>

- *Environmental History of the Delta* (1 wk, 2007), GEO 416/516, w/ Mikko Saikku, University of Finland, and Wiley Prewitt, independent scholar, Oxford MS
- *The 3 Rs of the Delta* geography workshop for K-12 teachers (2 wks, 2006 & 2008), funded by National Geographic Society, under auspices of the DSU Center for Culture and Learning
- *Struggles for Justice: Peace, Human Rights, and the Environment in Central America* (A Madison Center International Field Course to Guatemala and Honduras) (3 wks, 2005)

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<sup>1</sup> All courses 3 credit-hrs unless otherwise noted

<sup>2</sup> "\*" indicates new courses designed & taught; "x"=times taught through Fall 2008

<sup>3</sup> Mixed grad / undergrad, range of course numbers offered, variable credit 1-9 hrs

- *Arkansas & Oklahoma* (1 wk, 2004) – GEO 404/504, 405/505, 416/516, geographies of culture, tourism & natural resources
- *Honduras* (3 wks, 2002) – GEO 446, 492, geographies of environment & development

### **ADVISING and DEGREE SUPERVISION**

- Students in Bachelor of Science in Social Sciences, Geography Concentration (24 hrs. required in GEO)
- Students in Bachelor of Science in Social Sciences, no concentration
- Students pursuing Master of Secondary Education (formerly M.E. in Social Science Education), Geography Concentration (18 graduate hours required in GEO, thesis option)
- Six Masters of Education advisees graduated, non-thesis option
- One M.S.E. student currently under supervision
- One M.S.E. advisee, Shannon Lamb, completed and defended 2007 thesis based on ethnographic research in Honduras ('The Geography of Secret Wars: Public memory suppression and the post conflict landscape')
- Committee member, Master of Community Development thesis supervised by John Green (Monica Rosas, successfully defended in Fall 2007)

### **STUDENT RESEARCH and COMMUNITY ENGAGEMENT**

- *Graduate students:* S. Lamb (2006, 2007) and S. Trapolino (2007, 2008) attended Association of American Geographers national conferences and gave papers with funding from DSU. Lamb chaired session in 2006; Trapolino elected to Geography Education Specialty Group as student representative in 2007 and judged undergraduate papers in 2008
- *Undergraduate research:* James Stallings, student from 2007 *Environmental History of the Delta*, currently carrying out research project on the Ivory-billed Woodpecker in the Delta
- *Undergraduate/graduate research:* students in Fall 2007 *Cultural Geography* compiled data for the Cultural Atlas of Bolivar County, currently a project of GEO graduate student Scott Trapolino and the GIS center
- *Service-learning:* students in GEO 303 are required to teach one geography lesson in a school or to another formally organized group. As a result, at least 400 geography lessons have been given locally and in other location in Mississippi and elsewhere since 2001
- *Service-learning:* 25 students in my Fall 2005 courses were given credit for any major volunteering work post-Katrina
- *Service-learning:* GIS center students, led by GEO graduate student Scott Trapolino, helped design a protocol and plot points for an atlas of the 2006 and 2007 Dahomey-Great River Road Christmas Bird Count, under my supervision
- *Service learning:* Physical Geography Sp 2003 students worked with 'Keep Cleveland Beautiful campaign'

# Service

## **INTERNATIONAL ORGANIZATIONS**

- Candidate for invited membership in the Cycad Specialist Group of the International Union for the Conservation of Nature (IUCN); currently in negotiation
- Sociedad Mesoamericana para la Biología y la Conservación / Mesoamerican Society for Biology and Conservation: Board Member, 2003 – 2005; Editor-in-Chief, *Mesoamericana, Boletín de la Sociedad Mesoamericana para la Biología y la Conservación*, 2004 – 2005; United States chapter liaison, 1998 – 1999

## **NATIONAL ORGANIZATIONS**

- Conference of Latin Americanist Geographers: Board Member, 2004 – 2007; Membership Committee, member, 2004 – 2007

## **UNIVERSITY-WIDE** (Delta State University)

- Chair, Merit Pay Appeals Committee (elected, 2007 - 2008)
- Chair/President, Faculty Senate (elected to 2006 – 2007 term). Also served as: Immediate Past President (ex officio) (2007 – 2008); Senator, representing Div. Soc. Sci. (2005 – 2006); Committee on Elections, member (2005 – 2006)
- Member, Academic Council (2006 – 2007)
- Member, Budget Committee (2007 - 2008)
- Member, Institutional Review Board (2002 – 2006)
- Member, Library Committee (2001 – 2002)
- Member, Merit Pay Committee (elected, 2006 – 2007)
- Member, President's Cabinet (2006 – 2007)
- Member, Research Committee (2002 – 2008)
- Member, Safety and Environment Committee (2002 – 2007)

## **DEPARTMENTAL** (Division of Social Sciences, Delta State University)

- Chair, Assessment Committee (SACS) (2006)
- Chair, Merit Pay Committee (2007 – 2008)
- Chair, search committee, Geography/Social Sciences Education position (2004)
- Chair, Undergraduate Curriculum committee (2003 – 2006)
- Faculty Associate, Madison Center for Democracy, Human Rights, & the Constitution, (2004 – 2006)
- Member, Academic Honesty and Ethics committee (2005 – present)
- Member, search committee, GIS Center Director (2004)
- Member, Student Evaluations ad hoc committee (2004)
- Member, Tenure and Promotions Committee (2008 - )
- Organizer, International Coffee Hour series (2007 – 2008)

**COMMUNITY** (Selected professional service activities concerning Mississippi and Honduras)

- Attended 1st International Rusty Blackbird Workshop at USDA Southern Hardwoods Laboratory, Stoneville, 2007, by invitation of Dr Paul Hamel. Under auspices of the International Rusty Blackbird Technical Group
- Board Member, Friends of Dahomey National Wildlife Refuge. Elected Jan 2005.
- Supplied five expert witness affidavits (2003 – 2006) in support of Honduran political asylum cases in US immigration courts, and offered telephonic testimony once. Case conditions included domestic violence, persecution based on social group membership, and torture. Four of five cases were successful. For three of these, served as Associate (Honduras Expert), Political Asylum Research and Documentation Service, Princeton, NJ
- Spoke about birds in Honduras and Mississippi to clubs in Cleveland: 2006 - 2008
- Consultant (short-term), International Resources Group (Wash. DC), for Manejo Integrado de Recursos Ambientales (MIRA), project (USAID), Honduras, 2005
- Featured speaker for Audubon Mississippi's annual 'A Gathering of Chapters and Storks' at Tara Wildlife, Vicksburg, MS, 2004. Talk was entitled 'Birds, People, and Conservation in Honduras'
- Featured panelist on 'Listening to Locals, A Conversation with Mark Bonta,' Honduras Forum on Planeta.com, global journal of practical ecotourism, 2004
- Gave interview (by telephone), KGNU, Boulder, CO, on 'Hemispheres' radio program, with Ellen Klaver. Spoke on the deteriorating human rights situations in Honduras. 2003
- Provided written documentation to the environmental justice NGO Global Response ([www.globalresponse.org](http://www.globalresponse.org)) for its Honduras environmental justice letter-writing campaign, 2003