STUDY ABROAD ROCKS
by Eric Garcia
About myself...

University of California San Diego, 2006 – 10
B.S. Ecology, Behavior & Evolution
Transfer Student

Applying to Marine Biology
Ph.D. Programs

Studied Abroad in...

Australia
Switzerland
Costa Rica
South Africa
GOAL

Inform
Educate
Encourage

Increase Minority Students Abroad

Sharing my experience
Contents...

- Why Study Abroad?
- FAQs – Challenges
- Programs & Application Process
- Financial Aid
- Benjamin A. Gilman Int. Scholarship
- Research Abroad / My Experience
- Useful Links
Why study abroad?

• Experience new cultures & people
• Different view of the world and yourself
• Boost your confidence
• Strengthen your resumé
• Research & “hands on” experience
• Travel
Frequently Asked Questions

• Where can I go?
• Does it delay my graduation?
• How much does it cost?
• Is there any financial aid?
• Is it very competitive?
• What about language?
Challenges

- Money
- Rejection
- Time
- Family - Friends
- Fears (comfort zone) & cultural shock
- Coming back – going again
Programs

You have options!

- EAP
- OAP
- Global Seminars
- Summer Research Programs
- Work / Teaching / Internships / Volunteering
- Semester at Sea

Photo Credit: Kimmy
EAP Application Process

- Check Deadlines - Apply early!
- First Steps session
- Choose a program
- Apply
  - Online application, Forms
  - Statement of Purpose
  - Letters of Recommendation
- Interview
- Post-acceptance process

Apply for Financial Aid
Few Pieces of Advice…

- Learn about your host country
- Socialize with locals
- Stay longer
- Be aware and safe
- Stay out of trouble / don’t get drunk
- Have fun
- Travel
Financial Aid

- FAFSA
- Federal & Private
- School – Study Abroad – Research – CAMP SRP
- Benjamin A. Gilman International Scholarship 2010
- ERC abroad scholarship 2010
- SMART Grant 2007 & 2008
- Friends of the International Center Scholarship 2007 & 2010
- EAP Scholarship 2007 & 2010
Benjamin A. Gilman International Scholarship

• Deadline: March 1, 2011
• US citizens – Fed Pell Grant
• Community College or University – All majors
• Application
  • Online application – Transcripts
  • Abroad and financial aid advisor certificate
  • Statement of Purpose – Follow-on-Project
• Spring 2010 - 8 UCSD students – 1 in 3 awarded nationally

$4,000 average - up to $5,000; Critical language $8000
SUMMER SCHOLARSHIPS
FOR STUDY ABROAD

The Gilman Program
Eligibility Requirements:

• Applicant must be a U.S. citizen undergraduate student at a 2 or 4 year institution in the United States
• Applicant must be receiving a Federal Pell Grant at the time of application or during the term of study abroad
• Applicant must be applying to a study abroad program eligible for credit at the student’s institution of higher education in the United States
• Applicant must be studying abroad for a minimum of 4 weeks in one country
• Study abroad program can take place in any country that is not on the U.S. Department of State’s Travel Warning List or Cuba

THE GILMAN PROGRAM DIVERSIFIES THE KINDS OF STUDENTS WHO STUDY ABROAD AND THE COUNTRIES AND REGIONS WHERE THEY GO BY AWARDING OVER 2,300 SCHOLARSHIPS OF UP TO $5,000

APPLICATIONS

Complete the online application at www.iie.org/gilman. Contact the Financial Aid and Study Abroad advisors at your home institution to notify them you are applying for the Gilman Scholarship. Send three copies of your transcripts from your current institution and any previous institution indicated on your application.

DEADLINES

For Summer 2011
MARCH 1, 2011

The Gilman Program strongly encourages applications from:

• Students from diverse backgrounds
• Students going to non-traditional study abroad destinations
• Students attending community colleges
• Students with disabilities
• Students in fields of study underrepresented in study abroad

Award Information

• Limited number of summer scholarships
• Average award offered: $3,000
• Available to all majors

SPONSORED BY
U.S. Department of State, Bureau of Educational & Cultural Affairs
ADMINISTERED BY
Institute of International Education (IIE)

APPLY ONLINE AT WWW.IIE.ORG/GILMAN
Research / My Experience

- Australia, Fall 2007
- Switzerland, Summer 2008
- Costa Rica, Spring 2009
- South Africa, Winter-Spring 2010
- Research at SIO
Australia

Marine Biology and Terrestrial Ecology Program
University of Queensland, Brisbane
August – November 2007

P.I. - Dr. Ian Tibbetts

Research Projects:

1) “Seagrass and *Caulerpa taxifolia* habitat complexity as nursery assessment in Moreton Bay, Queensland, Australia”

2) “Trophodynamics of inter-reefal sandy patches in Lady Elliot Island, Great Barrier Reef, Australia”
P.I.s - Dr. Tony Wilson & Dr. Stuart Sandin (SIO)

Research Project:

“Interspecific hybridization as a source of genetic variation in eastern Pacific Syngnathus species”
Hybridization as a Source of Genetic Variation in Eastern Pacific Syngnathus Species

Eric Garcia¹,²,³, Stuart Sandin², Anthony Wilson³

¹Biology Department and ²Scripps Institution of Oceanography, University of California, San Diego, La Jolla, CA
³Department of Zoological Museum, University of Zurich-IRchel, Zurich, Switzerland

1 Introduction

While hybridization is thought to be an important source of genetic variation, it has not yet been reported in any syngnathid species (pipefish and seahorses). However, natural occurring interspecific mating (Wilson 2006) and the high diversity of Syngnathus species co-occurring in high densities in California and Baja California suggest that hybridization may be contributing variation to these pipefish species. We used both morphological and genetic analyses to investigate the role of hybridization in Californian pipefish.

2 Methods

Pipefish were morphologically identified employing trunk ring, tail ring and dorsal fin ray quantifications. A Syngnathus-specific non-coding nuclear sequence and mitochondrial DNA (16S gene) were obtained from dried, frozen and ethanol-preserved specimens by standard ethanol precipitation procedures.

3 Extracting DNA from formalin-fixed samples

In contrast, extracting DNA from formalin-fixed samples involved among others, washing the tissue for three days with a formalin-binding reagent as well as a prolonged digestion and a series of phenol extractions.

4 Results

- Novel Syngnathus Sequences
- New S. exilis haplotype
- Successful DNA extraction from Formalin-Preserved specimens
- Positive correlation between geographic distance and genetic difference between species

5 Discussion

Hybridization was not detected. However, observed correlations and phylogenies strongly suggested that hybridization might contribute to Californian pipefish’s variation. Thus, this study set the basis for further investigation and highly encourages supplementary analysis of hybridization in these organisms. In addition, featured DNA extracting protocol will open many doors to new projects as it will permit researchers to obtain DNA sequences from formalin-fixed samples from the numerous fish collections in aquariums, museums and universities. Unfortunately, data set was not completed due to time limitations. Consequently, results and phylogenetic analyses were restricted.

6 Major References

Costa Rica

Tropical Biology & Conservation Program
Monteverde Institute, Monterverde
April-July 2009

P.I.s - Dr. Frank Joyce & Dr. Federico Chinchilla

Research Project:

“Habitat Complexity and Species Composition of Moray Eels (Muraenidae) along peninsula Santa Elena, Costa Rica”
Effects of Habitat Complexity and Fishing on Moray Eels (Muraenidae) along Santa Elena Peninsula, Costa Rica
by Eric Garcia
Tropical Biology and Conservation Program, Monteverde, Costa Rica - EAP SP09
Biology Department, University of California, San Diego, La Jolla, CA

1 Introduction
The structural complexity of a habitat greatly influences local fish abundance and diversity (Bell et al. 1997). However, the relationship between habitat complexity and moray eels (Muraenidae) is not obvious given that habitat complexity can affect morays (1) negatively by increasing prey shelters, which then reduces their prey-encountering rate (Murdoch & Oaten 1975) and (2) positively by increasing refuge variety and presenting them with a wider array of niches and available resources (MacArthur & Levin 1967). Here, I assessed the effects of habitat complexity on moray diversity and body size by comparing my observations made in May 2009 to those made in May 2009 by Nicholson (2008) at the same sites. Furthermore, I studied the relationship between habitat complexity and moray composition in offshore islands and coastal sites that present diverse habitat complexities. Additionally, I investigated the influence of seawater temperature on my surveys. Similarly, the fishing pressure on morays along the St. Elena peninsula is also ambiguous. Morays are not commercially fished, however, large morays are sometimes harvested to use their flesh as bait for other fishing practices. Moreover, fishermen often times feel threatened by large morays and they kill them (Minor Lara pers. comm.). This study evaluates the effects of fishing on moray eels by comparing the moray community inhabiting the non-protected rocky reef, Bajo Rojo to morays dwelling in the waters of the marine protected area (MPA), Islas Murciélago.

2 Methods
• Snorkeling Surveys: systemized with Nicholson (2008)
• Site Structure Complexity comparison: low, medium, high
• Moray size classification: sm(>0.6m), med(0.6-1.2m), lg(>1.2m)
• Comparison between MPA and non-mpa sites

3 Results
Species composition & observations at Bajo Rojo
No statistical changes detected between 2009 (X²=8.62, df=8, 0.5 > p > 0.1.)

3.1 Species composition along St. Elena peninsula

4 Discussion
• Moray observations (abundances?) remained stable at Bajo Rojo and Islas Murciélago but are not driven by habitat complexity along (Fig 1,3,4). Temperature was positively correlated with moray observations yet other factors must be incorporated (Fig 2).

• Habitat complexity enhances moray diversity! (Table 2, Fig 5)

• Fishing does not affect moray species richness as this was similar at Bajo Rojo and Islas Murciélago (Fig 5). However, fishing might reduce moray size. Although, I observed a shift to a community of smaller morays along the St. Elena peninsula is also ambiguous. Morays are not commercially fished, however, large morays are sometimes harvested to use their flesh as bait for other fishing practices. Moreover, fishermen often times feel threatened by large morays and they kill them (Minor Lara pers. comm.). This study evaluates the effects of fishing on moray eels by comparing the moray community inhabiting the non-protected rocky reef, Bajo Rojo to morays dwelling in the waters of the marine protected area (MPA), Islas Murciélago.

Major References
Nicholson, E. 2008. Diurnal Refuges of Morey Eels (Muraenidae) in the local knowledge throughout the many years he has lived in Cuajiniquil. Minor Lara. Experienced fisherman and dive master that have accumulated divergence of coexisting species. Am Nat 101:377–385

§®IC
South Africa
University of Cape Town, Cape Town
January – July 2010

Photo credit: David Yu
P.I. Dr. Greg Rouse.

Research Project:
Working on phylogenetic relationships among eastern Pacific Syngnathus pipefish species
Conferences & Publications

- SCCUR 2009
- CAMP Statewide Symposium 2009
- SACNAS National Conference 2008
- Program Symposia

Saltman Quarterly, Vol. 6, Pg. 30, 2009 (Switzerland)
Thanks to...

Australia
Dr. Ian Tibbetts & John Hall

Switzerland
Dr. Tony Wilson

Costa Rica
Dr. Frank Joyce & Dr. Federico Chinchilla

UCSD
Dr. Greg Rouse
Dr. Stuart Sandin
Dr. Jacqueline Azize-Brewer
Programs Abroad Office

All other Scholarships

Sponsors & Universities
Useful Links…

Study Abroad Rocks – The Blog!
studyabroadrocks.blogspot.com

Benjamin A. Gilman International Scholarship
www.iie.org/gilman

Education Abroad Program
www.eap.ucop.edu

UCSD Programs Abroad office
http://programsabroad.ucsd.edu/pao/contacts.htm

CAMP – UCSD
http://aep.ucsd.edu/camp.html
http://aep.ucsd.edu/?action=ncs

Career Services Center – UCSD
http://career.ucsd.edu