

2009

The Preservation of Sea Turtles: An Interview with Dr. Thane Wibbels

Timmy Wang

Follow this and additional works at: <https://digitalcommons.library.uab.edu/inquiro>



Part of the [Higher Education Commons](#)

Recommended Citation

Wang, Timmy (2009) "The Preservation of Sea Turtles: An Interview with Dr. Thane Wibbels," *Inquiro, the UAB undergraduate science research journal*: Vol. 2009: No. 3, Article 25.

Available at: <https://digitalcommons.library.uab.edu/inquiro/vol2009/iss3/25>

This content has been accepted for inclusion by an authorized administrator of the UAB Digital Commons, and is provided as a free open access item. All inquiries regarding this item or the UAB Digital Commons should be directed to the [UAB Libraries Office of Scholarly Communication](#).

faculty interview: biology

The Preservation of Sea Turtles: An Interview with Dr. Thane Wibbels

Timmy Wang

Recently, I had the privilege to interview Dr. Thane Wibbels about his journey in research, his involvement in UAB, and his current research. As an associate professor at UAB, Dr. Wibbels works in multidisciplinary research related to comparative reproductive physiology, specifically on temperature-dependent sex determination in reptiles. Since 1993, Dr. Wibbels has helped undergraduates obtain research experience in his lab and in this interview he provides some advice to undergraduates who are interested in starting research.

Q Where and how did you get started with research?

A) As an undergraduate, I was very interested in the broad spectrum of sciences. As a child, shows like Jacque Cousteau and the National Geographic Channel fascinated me and instilled in me a love for biology. This is what I chose to study as an undergraduate along with zoology courses with the thought of potentially getting into teaching and research.

Q So you didn't start research as an undergraduate?

A) As an undergraduate, I did not do any research. I was at the University of Nebraska where there were very few undergradu-

ate research jobs. It was not like here at UAB, where we have a multitude of students working in undergraduate research at any given time. It was difficult, and I did apply for one or two positions. What they needed though was one person per lab at the most, which basically meant you were competing with the entire student body for that one position. I actually began research after I started my Master's degree. I will say, however, that had I started research as an undergraduate, it really would have given me a head start on what it was all about. This way, I had to figure all those things out as a Master's student rather than getting the experience beforehand as an undergraduate when there was less pressure. That is one of the reasons why I believe in furnishing opportunities to the undergraduate students so that they get a feel for what research is like.

Q Did you know specifically what area of research in which you wanted to specialize?

A) Well, let's put it this way, I did not anticipate studying sea turtles, but I was very much interested in marine biology. When I started applying for a Master's degree program, I was applying to schools that had strong marine biology programs. That's how I ended up attending the University of Houston. At this institution there was a marine science program, and, as it turned out, Galveston, Texas was the place where they were raising sea turtles. Once I arrived, I started working with the turtles, and that developed into my Master's degree. At this time, I was commuting between Galveston and Houston depending on whether I was taking courses or working with sea turtles. I got to know people who studied sea turtles in various locations, and I started studying the whole idea of sea turtles. We were raising 2,000 sea turtles a year when I was there. So my job included taking care of the sea turtles, which I would do that in the morning, while in the afternoon I would do my research - studying the orientation behavior of turtles.

Q Your research was specifically on orientation behavior of sea turtles. Was it at all related to what you are looking at currently about temperature-dependent sex determination?

A) That came later. We were actually trying to save a species that was coming close to extinction. In fact, it was during this time that scientists performed some of the first studies on temperature-dependent sex determination in sea turtles. So, at the



time, we didn't know any information on the subject.

Q Do you remember which species you were trying to save?

A: It was the Kemp's Ridley species. As part of our study, we raised about 2,000 turtles to dinner plate size so that we could release them with a greater chance of their survival.

One of the great benefits of UAB is that it has a large amount of research opportunities for undergraduates. ...If you are going into research as a career, then participating in research as an undergraduate will allow you to have a head start.

Q What types of thoughts were you experiencing when working so closely with these creatures?

A) As I was raising and releasing turtles, thoughts of how this project was going to help propagate the species and prevent them from extinction kept entering my mind. During this time, I started learning about turtles in general and their unique life history. They have been around for a hundred million years and were really long lived in that some of the species took 10 to 50 years to reach maturity while floating around in the ocean. Then, once they reach maturity, they migrate long distances back to their nesting beaches and become tremendous reproductive machines for that season. Not only nesting once, turtles have been found nesting two, three, four, five, even six times depending on the species. So these types of things fascinated me about this interesting animal from a nature standpoint, a life history standpoint. That an animal can actually perform these feats is really fascinating and captivates one's imagination.

Q Was it during this time, while having these thoughts come about and while experiencing deep fascinations, that you decided that you wanted to go into this type of research as a career?

A) I will say that it was a gradual evolution. It is just one of those things that you are not only interested in but you also see all these hurdles that you have to get over. So I took the hurdles one at a time, and I began thinking about the first thing I was going to do, get my Master's degree. Then, if that worked out, I would probably go ahead and get a Ph.D. If I got a PhD, then I would vie for a faculty position. I was setting goals one step at a time based on my fascination with the science. As a matter of fact, I have always been driven by science, but not to the point where it's something that I worry about doing so that I can make a living. It became something I was always trying to do because I liked it. What has ultimately driven my career has been kind of an interest in science and actually getting to do something that I really enjoy doing.

Q So where did you go for your Ph.D.?

A) I then went to Texas A&M University because I met a person who was one of the world's foremost experts on sea turtles, Dave Owens. He was studying the hormone cycles that controlled the migration, reproduction, and production of thousands

of eggs in a nesting season and other things of that nature. I went and worked with him and worked towards my Ph.D., which included a number of projects. We did work in Mexico and in Florida, but my favorite project was six months of studying sea turtles out in the Great Barrier Reef in Australia.

Q Did you stay at Texas A&M to do your post-doctoral research?

A) I finished my Ph.D. at Texas A&M, studying the adult reproductive endocrinology in sea turtles. Changing the focus of my research, I decide to attend the University of Texas at Austin to do my post-doctoral work with two people who were experts on temperature-dependent sex determination, David Crews and James J Bull. The question of what controlled reproduction in these fascinating animals sparked my curiosity. At that time, it was becoming evident that all of these sea turtles had temperature-dependent sex determination. I realized that I had been studying the adult aspects of reproduction and that it would be really interesting to study the other end of the spectrum: the actual development of the reproductive system since they have this temperature-dependent sex determination.

Q What actually brought you to UAB, and how long have you been here?

A) While I was doing my post doc at the University of Texas, I began checking out faculty positions at various universities. The department of biology at UAB had a position that was just the exact type of thing I was looking for – a department of biology that was very organismally oriented. I had read a number of publications from there like that of Ken Marion. He had been studying adult reproductive endocrinology in Musk turtles. Thus, he had been doing some of the same type of stuff that I had been doing, only I had been doing it in sea turtles. So I thought that this would be a very nice academic atmosphere. I came here in 1993.



Q What is your current research focused on?

A) My current research is multidisciplinary. It centers on temperature-dependent sex determination in reptiles. In particular, it focuses on implications on the conservation of endangered species. Branching out from this, I have one person studying the molecular aspects: what kind of genes temperature may be turning on. I have other researchers who are just finishing studying what sex ratios are being produced in sea turtle populations in various locations. One person is working down in Mexico, while another is looking at stuff in Florida. The main concept is this: If the turtles do have this temperature-dependent sex determination, are they producing a one-to-one sex ratio, or, if not, what are they producing and is that good for the survival of the species? I also have another person who just came on board studying giant leatherback sea turtles that are going extinct in the Pacific. He is from Indonesia where some of the last strongholds of leatherback nesting beaches can be located. He is running a hatchery program on the beach to make sure that they are producing the correct sex ratios. Finally, I have one other person, Andy, who is studying a turtle that occurs here in the salt marshes of Alabama, the diamondback terrapin. It was once very abundant in Alabama, but they are now very scarce. We have found pockets of them in various locations but nothing the way it would have been a thousand years ago. We are primarily looking at where they nest and how we can try to initiate the recovery of that species in Alabama.

Q Do you have any advice for students seeking to get involved in research: what they should do or how they should seek out these opportunities?

A) Absolutely. I think that the best thing they can do is to start by visiting the web page of the department of interest. Word of mouth is also another great way to discover these opportunities. Instructors often talk about research and can help an undergraduate find something that they are interested in. One of the great benefits of UAB is that it has a large amount of research opportunities for undergraduates. UAB is set up so that you can find various research opportunities, and you can contact that researcher and explain to them that you are very interested in what they are working on, asking if it would be possible to work in their lab. I have at least ten people per semester working in my labs due to this type of communication, and so I have seen where it is a great opportunity for students. If you are going into research as a career, then participating in research as an undergraduate will allow you to have a head start. If you are not going into research, you will get at least a feel for what research is like.