



NEWS

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Curator Awarded National Science Foundation Grant *Team of Diverse Scientists Will Tackle Decapod Crustaceans for Ambitious "Assembling the Tree of Life" Project*

Los Angeles — Joel Martin, Chief of the Division of Invertebrate Studies and Curator of Crustacea at the Natural History Museum, has been awarded a large grant from the National Science Foundation for the Assembling the Tree of Life (ATOL) project.

The immediate aim of the project, an homage to Darwin's vision of the "great Tree of Life," is to construct a genealogical map, or phylogeny, for all lineages of life on earth — there are currently approximately 1.7 million described species. *Science* magazine called ATOL "one of the grand enterprises of modern science."

Awarded teams investigate and summarize the evolutionary history of one particular clade of plants or animals. Martin is part of a team that will analyze decapod crustaceans. The team includes: Dr. Keith Crandall (team leader) and Nikki Hanegan, Brigham Young University; Dr. Rodney Feldmann and Dr. Carrie Schweitzer, Kent State University; and Dr. Darryl Felder, University of Louisiana, Lafayette.

This diverse group has collectively published on every major lineage of decapods, and includes expertise in comparative morphology (larval and adult), systematic paleontology, molecular biology, and combined data phylogenetic analysis, as well as systematic theory.

Estimated to contain more than 15,000 species, the decapods are the most species-rich and economically important group of Crustacea. They include shrimp, crabs, crayfish, and lobsters. The team won't examine each species, but it will cover each of the group's families.

"Decapods are really amazing and diverse creatures," says Martin. "Some, as adults, are less than 3 millimeters (1/8th of an inch) long, while others are more than 4 meters (12 feet) across. They live in just about every type of habitat known, including mountain streams and the deep sea, and their fossil record extends back at least to the Devonian period, more than 350 million years ago."

Martin will collect morphological data from nearly all 153 extant families of decapods. Over his 19-year career at the Natural History Museum, Martin has received prodigious external funding. This is his 23rd grant from the National Science Foundation, but it is one of the larger and "more significant," Martin says.



A crab from the family Xanthidae, from Wake Island in the western Pacific and part of the Natural History Museum's collections. This is one of the 153 families that will be investigated in the ATOL project.

Included in the project will be the startling *Kiwa hirsute* — the furry white lobster discovered in the South Pacific last year. A bit of the new animal's tissue will be transported to team leader Crandall for molecular study.

The \$2.3 million grant will be divided amongst the team. The Natural History Museum will receive about \$555,000. Although most grants are collaborative these days, the ATOL project is unique for its sizable budget and its scope. "With past grants, we could only do a little at a time. Now we can bite off a big chunk," Martin says. "It's a quantitative leap forward, and it's a wonderful opportunity to learn more about crustaceans and to highlight for the public the research going on at the Natural History Museum."

The National Science Foundation awarded only seven of these research grants in 2005, and competition is fierce. The five other clades that will be examined via ATOL grants in the 2005 funding cycle are Cnidarians (a group of animals that have stinging cells, including jellyfish and corals), beetles, lepidoptera (butterflies and moths), protostomes (a large groups of invertebrate organisms that make up the majority of all animal forms), and liverworts (the simplest true plants).

FOR MEDIA:

1. Interviews with Joel Martin can be scheduled by calling (213) 763-3540.
2. Photos and renderings of the decapods are available.

THE NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY:

The Natural History Museum of Los Angeles County is located at 900 Exposition Boulevard. The Museum is open seven days a week, 9:30 am to 5 pm on weekdays, and 10 am to 5 pm on weekends and holidays. Admission is \$9 for adults, \$6.50 for students and seniors; and \$2 for children 5-12. For 24-hour Museum information please call (213) 763-DINO or visit www.nhm.org.