

EVOLUTION, ECOLOGY, & GENETICS RESEARCH SCHOOL OF BIOLOGY

Thursday, 6 October 2011, 1pm



Unravelling the cryptic feeding habits of marine turtles using compound specific stable isotope analysis of amino acids

Dr Karen Arthur
Postdoctoral Research Fellow,
Department of Geology and Geophysics,
University of Hawaii, USA

Marine turtles spend the vast majority of their lives in relatively inaccessible marine habitats. As a result, indirect approaches such as the use of bulk tissue stable isotope analyses have been used to infer diet and the location of feeding habitats for these endangered reptiles. Carbon and nitrogen stable isotopes have long been used by ecologists as dietary tracing tools because, in terms of isotopic composition, “You are what you eat, plus a little bit”. However, there are a number of assumptions that must be met in order to satisfactorily interpret bulk tissue carbon and nitrogen stable isotopic composition in relation to an animal’s feeding ecology. Compound specific isotope analysis of amino acids (CSIA-AA) is a novel tool that can alleviate some of the challenges associated with the interpretation of bulk tissue isotopic values. This is because some amino acids reflect the nitrogen isotopic composition of source nitrogen at the base of the food web, whereas others are significantly enriched in ^{15}N as they move up the food chain. Similarly, the origin of essential amino acids can be traced using “ ^{13}C fingerprinting” by identifying unique patterns in the carbon isotopic composition of amino acids. In this presentation, I will discuss the application of CSIA-AA in understanding leatherback migration and feeding in the Pacific Ocean and as a tool to trace the biosynthetic origin of nutrients in hind-gut fermenting green sea turtles.

For further info please contact:

Professor William Foley, 02 6125 2866, William.Foley@anu.edu.au



**Seminars are held in the Gould Wing Seminar Room, Building 116 Daley Rd, ANU
ALL STAFF AND STUDENTS ARE WELCOME TO ATTEND**