iBOL
Formicidae barcode of life

All Ant Barcoding Initiative (AABI) Meeting Report
May 29th and 30th 2008
Harvard University Center for the Environment

On the 29 and 30th of May 2008 – a community of ant researchers met at Harvard University at the Harvard University Center for the Environment, to discuss the potential to create a DNA barcode library for all ant species – the All Ant Barcode Initiative (AABI). The meeting was held coincident with the inaugural meeting of the ant portion of the emerging Encyclopedia of Life project (Global Ant Project - GAP); as well as the celebration of the 100th anniversary of the Ant Collection at the Museum of Comparative Zoology. Funding for participants was provided for by the EOL and Consortium for the Barcode of Life (CBOL).

The AABI meeting on the afternoon of the 29th was attended by Stefan Cover (USA), John Bravo Lattke (Venezuala), Corrie Moreau (USA), Carlos Roberto F. Brandão (Brazil), Ted Schultz (USA), Seiki Yamane (Japan), Phil Ward (USA), Jack Longino (USA), Fernando Fernandez (Columbia), Gary Alpert (USA), Steve Shattuck (Australia), Hamish Robertson (South Africa) Lloyd Davis (USA), Robert Dunn (USA), Brian Fisher (USA), Alex Smith (Canada), Scott Miller (USA) and Ed Wilson (USA).

Proceedings were initiated by a presentation by Scott Miller from the Smithsonian and CBOL. Dr. Miller provided participants with a background regarding the relatively rapid emergence of the DNA barcoding initiative and a roadmap for the different research, funding and standards groups currently associated with the initiative. Alex Smith, from the Biodiversity Institute of Ontario (BIO) then spoke on the academic and methodological components specifically of barcoding ants. Smith laid out what had been learned from the process of barcoding nearly 10K ants between 2004 and 2008 – and further detailed strategies necessary to complete the goal to provide barcodes for all ant species. These points outlined what barcoding is and what it is not; a formal description of the process and the capacity at BIO and the Canadian Centre for DNA Barcoding (CCDB), the relative cost of barcode generation, and the relationship between speciment age and sequencing success. The necessary informatics platform for this endeavor can be best facilitated through the use of BOLD (www.barcodinglife.org) as a common informatics portal, the BOLD Laboratory Information Management System (LIMS) for specimen auditing and the web-portal www.FormicidaeBoL.org for an informatics platform that facilitates project collaboration and data-sharing shared by the community. Finally, the International Barcode of Life Project (iBOL) – an emerging International Consortium Initiative funding initiative under the auspices of Genome Canada.

Brian Fisher spoke regarding the opportunities provided by DNA barcoding for the creation of a global database for invasive (or tramp) species and of the opportunity to begin the creation of a global library with a charismatic taxa from a relatively well known area.

In the discussions that followed the community decided in favor of:

- the participation in an initiative to barcode all invasive species
    - Creating this database was seen as an entry point to barcoding all species of a region as the *a priori* determination of what is and what is not an invasive species is non trivial.
- An initiative to barcode all of one economically important genus from a broad area
    - *Camponotus* was decided to be the best opportunity here.
- A global initiative to barcode all ant species (estimated at between 12 and 14K).
    - Participants expressed support for this initiative, and excitement at what might be discovered in working towards it's completion, but also of concerned about the scale (both in number of species, the preponderance of species complexes, yet to be discovered cases of taxonomic synonymy, and yet to be discovered cases of crypsis – where more than one true species is hidden under one specific moniker.

The invasives project is planned to a two year project from which there would emerge a single manuscript for which there would be large committee-style authorship.

It was decided that barcode data will be deposited and analyzed in BOLD – a necessary precondition for participation in the iBOL project. This data will be initially submitted to AntWeb (the EOL portal) and then BOLD will extract it. Initial tissue sampling plates, and their data, will be submitted directly to BOLD through BIO.

The decided committee for the AABI Research Team was; Brian Fisher and Alex Smith – co-chairs supported by a committee including Phil Ward, Lloyd Davis, John Lattke and Jim Wetterer (nominated in absentia). The sub-committee tasked with organizing barcoding of an economically important the exemplar taxon were, Lloyd Davis, Stefan Cover and Alex Smith.

The meeting on Friday, May 30th was hands-on session with participants meeting in the Daly Seminar room at the Harvard Natural History Museum. Discussions were centered on the dispersal of sampling boxes and plates (Matrix boxes and lysis plates) to each participant. These plates are designed for the rapid transport of specimen tissues for the extraction of DNA for DNA barcoding. Active discussions primarily revolved around the efficient and accurate capture of the data associated with each specimen.

The meeting adjourned with discussion regarding efforts to further involve and engage the global ant community.