

Advances in Cyclostome Research

February 8, 2008 – The 15th CDB meeting, “Advances in Cyclostome Research: Body Plan and Developmental Programs before the Jawed Vertebrates” was convened on January 24 and 25 in the CDB Auditorium, to learn about and discuss recent progress in the study of lampreys and hagfish, two taxa that occupy importance positions in the early phylogeny of vertebrates. Kinya Ota, a research scientist in the Laboratory for Evolutionary Morphology (Shigeru Kuratani; Group Director), gives a firsthand account of the meeting’s highlights and impact.



Meeting participants in the CDB Salon

“The meeting started on January 24, and though a chilling wind swept outside, the atmosphere was already beginning to heat up inside as researchers from around the world studying early vertebrate evolution gathered for the first talks in a full program on, as promised in the meeting title, Advances in Cyclostome Research. Meetings with a focus on cyclostomes and their key position in the origins and evolution of vertebrates are something of a rarity, and the anticipation among the speakers and audience for the upcoming sessions was palpable. As the meeting progressed, I’m sure their great expectations were justified by what turned out to be a wonderfully diverse series of presentations by scientists working in evolutionary genomics, molecular phylogenetics, comparative embryology, morphology, endocrinology and paleontology all contributed their perspectives on the cyclostome menagerie of lampreys, hagfish and lancelets, as well as Paleozoic armored fishes.

I personally gained a lot from the paleontological talks, as I have little contact with fossil fishes in my own work. Looking at the beautiful high-resolution images in the talk by Gai on his X-ray microtomography of galeaspids (which occupy a pivotal position in early vertebrate phylogeny), I couldn’t help but be impressed by the progress being made in paleontology in China. He also happened to be the youngest speaker on the program at this meeting, and made the most of the opportunity to jump right into the discussion with some of the biggest names in the field of vertebrate evolution, including Jon Mallatt, Per Ahlberg and Philippe Janvier, and the head of my lab, Shigeru Kuratani, which I think may have left some of the audience marveling at his assuredness (or at least his youthful passion).

The sequencing of the lamprey genome is now moving forward, so there was plenty to talk about regarding the evolution of genomes as well. The two focal

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questions raised by the meeting co-organizer, John McCauley, focused on the problem of whether Cyclostomata is indeed a valid taxonomic group, and pinning down the timing of the genomic duplication event in evolutionary history, questions. The subsequent discussion itself evolved and diversified, bringing in views from many different arenas but ultimately no consensus was reached, perhaps because of the gaps in our understanding that sometimes serve as defining boundaries between fields. Given the evident passion everyone showed for their studies, I suppose it would be unrealistic to expect a sudden resolution of these longstanding debates.

My own studies sometimes take me off the beaten academic path, so I have great respect and admiration for people who maintain their own unique personas and research styles, and it was a treat to be able to talk with others at the coffee breaks and the reception about what we were working on and where it might lead. By the end of the meeting, I'm sure every one of the participants came away with a new appreciation for the importance of fields other than their own (I hope so, anyway). In his closing remarks, McCauley joked, "Don't you think we should have another one of these meetings? Just not in January!" It seems the arctic winds of Kobe's Port Island may have been strong enough to dim the ardor after all.