RIKEN Center for Developmental Biology (CDB)
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2005 CDB Symposium: Origin and Development of the Vertebrate Traits

May 6, 2005 – The RIKEN Center for Developmental Biology (Kobe, Japan) hosted its third annual symposium on April 11 to 13. The three-day meeting, which focused on the origin and development of traits specific to vertebrate organisms, brought together approximately 150 participants from a range of evolutionary and developmental biological fields. The meeting's eleven sessions featured talks ranging from morphogenetic aspects of vertebrate body structures, to discussions of the neural crest and its derivatives to the genetic and cellular underpinnings of the vertebrate body plan, and of the related chordates. In addition to 25 talks by distinguished speakers, participants shared their work in poster sessions held on the first two days of the symposium, and enjoyed long after-hours discussions in the salon adjacent to the auditorium in which the meeting took place.

Rolf Ericsson, a postdoc in the CDB Laboratory for Evolutionary Morphogenesis, commented on his first experience of a CDB Symposium. "The 2005 CDB Symposium was a small meeting with a grand title, and one that encompassed many fields of development and evolution, ranging from bioinformatics studies of ascidians to the palaeontology of fishes. The program was an unusual concentration of excellent scientists with a common interest in evolutionary developmental biology, and with very different perspectives and favourite model animals. In my experience, these kinds of meetings tend to favour the developmental side, but this time I felt that all the talks were pervaded by evolutionary thinking, which was especially apparent during the discussions. As there was such a mix of people, the discussions tended to revolve more around common evolutionary questions than technical details, which was much appreciated. We were also fortunate to have among us a scientist with a palaeontological background, which gave most of the rest of us a refreshing chance to share the view from his vantage.

Clearly one of the strengths of this symposium was that we were given the opportunity to hear, see and discuss what is happening in evolutionary developmental research in other organisms and organ systems than our own. I found it very interesting to see how far the work on ascidian development has progressed. With the genome of two *Ciona* species sequenced, finding gene regulatory sequences controlling expression in specific contexts will doubtless be greatly facilitated, and I'm sure that this information will be very useful for finding corresponding sequences in other organisms.

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There were also many good talks in the field of vertebrate head development. The use of quail-duck transplantations for elucidating temporal differences in developmental gene expression and tissue interactions was most impressive, as were the results from the knockout experiments of *Dlx* and *Hoxa2* in mouse embryos. The development of advanced cell tracing techniques on frog development provided a very surprising insight into the contribution of the hyoid arch to the upper jaw after metamorphosis. Although this may not sound very odd at first, it is a deviation from a pattern that was thought to be the rule for all vertebrates. I am very much looking forward to hear more of this story. I also got a good dose of talks on early embryonic patterning, of which the work on the *Antivin* gene was most memorable, not solely for the quality of its presentation, which was excellent.

Apart from the specific presentations I have mentioned above, there were many other good, solid talks and I had a great time meeting with friends and colleagues from all over the world. This was also my first meeting in Japan, and I was glad to listen to many good talks by Japanese scientists. I hope to see more of them at international conferences abroad. The setting and organisation of the symposium at CDB also contributed to the good atmosphere; that, and the all the cherry blossoms."

Next year's CDB Symposium, on the logic of developmental processes and systems, will be held on April 10 to 12, 2006.

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