

Z 118 Bioinformatic Analysis of Retroposon Family in Humans and Primates

Young-In Park*, Joo-Mi Yi, Won-Ho Lee, and Heui-Soo Kim
Division of Biological Sciences, College of Natural Sciences, Pusan
National University

SINE-R elements constitute a class of retroposon derived from the long terminal repeat (LTR) of the human endogenous retrovirus HERV-K family that are present in hominoid primates and active in the human genome. We examined the recent evolutionary history of this class of elements by PCR approach to genomic DNA from humans and primates and BLAST search from GenBank database. Phylogenetic comparisons from those sequences revealed wide overlap of elements across species, suggesting multiple origins in the course of hominoid evolution. The SINE-R family appeared to have continued to be an active in transposition throughout the course of primate evolution and has evolved independently. The SINE-R.C2 element, that is human specific, has diverged furthest from the HERV-K10 sequences. Such elements are likely to be of great potential relevance to recent events in hominoid evolution and to structural change or genetic variation connected to various diseases.

**Z 119 Annual Reproductive Cycle of the Antarctic clam, *Laternula elliptica*
collected from Marian Cove, King George Island, Antarctica**

Do-Hyung Kang*, Kwang-Sik Choi*, In-Young Ahn**, and
Ho-Sung Chung**

* Faculty of applied marine science, Cheju National University

** Polar Research Center, Korea Ocean Research and Development
Institute

Seasonal changes in the gonadal tissues of the Antarctic clam, *Laternula elliptica* were investigated from clam sampled over two years from February 1998 and January 2000. For analysis, clams were sampled at Marian Cove, King George Island using SCUBA, fixed in 10% neutral formalin *in situ* and transported to the laboratory. After recording shell length, height and tissue wet weight, middle part of the body was sectioned longitudinally for histological preparation. Gonadal maturation, oocyte diameter, and an area occupied with oocyte in a follicle in an unit microscopic field were measured using an image processor. Microscopic observation of the gonad revealed that *L. elliptica* was hermaphrodite. Of the 639 clams examined, the smallest clam of 34.5 mm (3 year-old) exhibit mature gonad indicating that this size may be the minimum size for reproduction. Seasonal change in gonadal tissues in terms of size and shape was obvious although eggs and sperms observed in the gonad all year round. Oocyte diameter increased from March to November. Reproductive stage of the clam could be categorized into four stages according to appearance of the gonadal tissues and oocyte diameter; growing stage (21 to 80 μm), premature stage (81 to 100 μm), mature stage (101 to 120 μm) and fully mature and spent stage (121 to 140 μm). Fully mature eggs were observed in December and January. Clams collected in February and March displayed spent gonad with few residual eggs. It was believed that most clams at Marian Cove spawned during January and February and gametogenesis resumed after March.