

3-1. Migration and Distribution of Salmon (Poster-13)

Monitoring of Viruses in Chum Salmon (*Oncorhynchus keta*) Migrating to Korea

Don-Jun Jeon¹, Chul-Ho Lee², Chae-Sung Lee², Ki-Baik Seong², and Jeong-Ho Kim*¹

¹ *Fac. of Marine Bioscience & Technology, Kangnung National University, Kangnung 210-702, Korea; E-mail, jhkim70@kangnung.ac.kr*

² *Cold-water Inland Fisheries Research Institute, NFRDI, Yangyang 215-821, Korea*

Migrating Pacific salmon for spawning are susceptible to many infections. Salmon fry are also susceptible to many infectious agents and the salmonid pathogens can affect the survival of salmon fry and smolts. Hence, it is important to investigate the prevalence of salmonid pathogens because the pathogens can affect the amount of release of salmon fry and the migration rate of adult salmonids. Routine surveys were conducted for investigating virus distribution in migrating adult chum salmon (*Oncorhynchus keta*) and their offsprings at the Namdae River, Korea, during 2006~2008. Anterior kidney were removed from adult chum salmon individuals and homogenized with minimal essential medium (MEM-O), then centrifuged to make supernatants for conducting RT-PCR. Five offsprings were pooled to for conducting RT-PCR. Infectious Pancreatic Necrosis Virus (IPNV), Infectious Hematopoietic Necrosis Virus (IHNV) and Viral Hemorrhagic Septicemia Virus (VHSV) were the target viruses for monitoring. In 2006, only adult salmon were investigated and 22.5% of fish (22/80) were found to be IHNV-positive by two-step PCR. In 2007, 65% of pooled fry (21/32) were IHN-positive and 9.3% (3/32) were IPNV-positive. However, only 1% of adult (1/80) was IHNV-positive. In 2008, 25 % (8/32) of pooled fry were IHNV-positive. All the samples tested were VHSV-negative. The occurrence of IHNV in chum salmon in Korea was confirmed for the first time in this study. The finding of virus in adult chum salmon raises a possibility of marine environment origin. However, relative high prevalence of viruses in fry is more likely to suggest that the virus can be originated from fresh water. More exclusive studies are needed to clarify whether these viruses are originated from fresh water or sea water. And it is also necessary to investigate that these viruses can affect the survival of smolts after migration into the sea.