**Abstract**

The viral pathogen, Largemouth Bass Virus (LMBV), is a member of the family Iridoviridae and has been known to cause large fish kills among Largemouth Bass, Micropterus salmoides. The viral pathogen is also consistently isolated from other species where diseased fish are found. Throughout the Susquehanna River Basin since 2005, Smallmouth Bass, Micropterus dolomieu, have been suffering from wide-spread disease related deaths. Even though LMBV is not clinically known to affect Smallmouth Bass, this virus is prevalent among diseased fish infected with other pathogens such as Pseudomonas aeruginosa. The question we seek to address is whether there are significant genetic differences between LMBV isolates from smallmouth bass and largemouth bass. Total DNA was isolated from preparations of LMBV derived from smallmouth bass and largemouth bass isolates. Five LMBV-specific primer sets were used to amplify fragments from each preparation for conventional Sanger sequencing and the total DNA preparations are also being analyzed using MiSeq NextGen sequence analysis. After analysis of the sequences, there does not appear to be any significant difference between the DNA sequences of the virus when it is isolated from either the largemouth bass or smallmouth bass. Further analysis using BLAST and other comparison tools will be used to determine any differences between the sequences.

**Analysis of MCP PCR Product:**

**Analysis of DNApol PCR Product:**

**Background**

- Isolates of LMBV were collected from smallmouth bass in the Susquehanna Watershed.
- Is LMBV causing disease in the smallmouth bass?
- Is the smallmouth bass within the virus’s normal host range?
- Are the SMB isolates different from the LMB isolates?

**Methods**

- **Virus Isolates**
- **DNA Isolation** (Qiagen)
- NextGen Full Genome Sequencing
- Qubit
- MiSeq
- PCR for: DNApol, Mtase, MCP
- Table 1. Whole Genome Sequencing Stats
- Conclusions
- 1st genome sequences of LMBV
- No obvious differences observed in LMBV from SMB

**References**


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