

Notes for network meeting on Oct 8 2022

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This meeting talks about the updates of the field work, lab work, and data analysis in the rule of life project.

For the field work, most of the experiments are succeed. Due to the limited resource, we will have 30 samples of sticklebacks for each lake. There are also some ongoing transplant experiments that move adult fish from one lake to another lake. For the lab work, the RNA extraction for 2021 samples are done, and the extractions for 2022 and 2019 samples will be finished in a few months. Tagseq data for 2021 samples will also be done in 5-6 weeks. Moreover, some extra diet analysis data are collected for possible ecological network analysis. In summary, we will hopefully have the complete data this winter or sometime earlier next year.

For the data analysis, three of us (Rogini, Wan, and I) are basically working on the same tasks: network construction and network comparison. Rogini and Wan's analyses are based on the bulk-tissue gene expression data, and they used different network methods than our analysis.

Tina suggested Wan to have an extra meeting with me to avoid the double effort on the same problem. So I talked with Wan after the meeting. Her analysis ideas are similar to ours but use different python packages. The big problem is: we do not know how to interpret the result and how to improve in the next step. For my analysis, I would like to check the python package first because these packages can obtain the high-dimensional network (gene numbers $n = 10000+$) in a short time. We may extend the eigenvalue-based test to the large scale networks.

References