



The University of Hong Kong  
School of Biological Sciences

Qualifying  
Seminar

# EVOLUTION OF YOUNG SEX CHROMOSOMES IN *PUNGITIUS* STICKLEBACKS

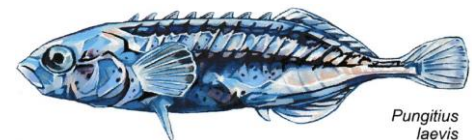
**Date: 22 March 2024 (Fri.)**

**Time: 15:00**

**Venue: 6N-11, KBSB, HKU**



*Pungitius  
pungitius*



*Pungitius  
laevis*

## About the speaker:

Dandan Wang is a 2nd year PhD student under the supervision of Prof. Juha Merilä. Her work focuses on the sex chromosome evolution of *Pungitius* sticklebacks.



## Abstract:

Sex chromosomes have evolved independently several times across the tree of life. Some taxa such as birds and mammals have conserved sex determination systems, while others carry diverse sex chromosome systems even in closely related lineages. Transitions of sex chromosomes occur frequently within these groups, with the young sex chromosomes remaining usually undifferentiated, escaping the destiny of Y/W chromosome degeneration. *Pungitius* sticklebacks provide an excellent model to study the transition of sex chromosomes, given that different sex chromosomes and sex determination systems are known to occur within and among closely related species. The lack of a complete sequence assembly of sex chromosomes in these sticklebacks hinders the investigation of sex chromosome evolution in this model system. Therefore, I will assemble high-quality sex chromosomes for two European nine-spined stickleback lineages with distinct sex chromosomes and a broad hybridization zone across the Baltic Sea. I will also include two other *Pungitius* stickleback species to study the evolution and turnover of sex chromosomes. Additionally, a unique hybridization experiment involving the European lineages of *Pungitius* will help elucidate the impact of sex chromosome turnover on lineage divergence.