



# A dense linkage map of Lake Victoria cichlids improved the *Pundamilia* genome assembly and revealed a major QTL for sex-determination

July 11, 2018 |

Genetic linkage maps are essential for comparative genomics. In this study, we identified and genotyped markers via restriction-site associated DNA (RAD) sequencing to create a genetic linkage map based on 1,597 SNP markers from an interspecific F2 cross of two closely related Lake Victoria cichlids (*Pundamilia pundamilia* and *P. sp. 'red head'*).

This high-resolution linkage map was used to anchor the scaffolds of the *Pundamilia* genome and estimate recombination rates along the genome. Via QTL mapping, we identified a large locus for sex determination in a ~1.9 Mb region on Pun-LG10, which is homologous to that of *Oreochromis niloticus* LG 23 (Ore-LG23) and which contains a gene (*amh*) known to be responsible for sex determination in several vertebrate species.

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