

Genomics of sex determination in the Hawaiian Wikstroemia

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Project Description:

Despite intense study for over 100 years, understanding how and why genes determining sex evolve – and the consequences for the chromosomes harboring them – remains an open problem in evolutionary biology. One obstacle is that most previous work has focused on ancient sex chromosome systems, like those found in mammals, where recombination suppression and genetic degeneration has obliterated any signs or signals of how genetic sex-determination evolved in the first place. The goal of this project is to understand the genomic changes giving rise to at least two and possibly three parallel transitions from hermaphroditism to dioecy via the evolution of new sex chromosomes within an endemic Hawaiian radiation of the flowering plant genus *Wikstroemia* (Thymelaeaceae; 12 spp.). The Hawaiian *Wikstroemia* are also culturally and practically significant to the indigenous peoples of Hawaii, with a variety of uses ranging from medicinals, fish anaesthetics, to cordage. This Research project will utilize a variety of genomics, bioinformatics, gene expression, and greenhouse experiments, and will generate a large amount of genomic data including annotated reference genomes that will ultimately be archived on a public genomic database (European Nucleotide Archive, <https://www.ebi.ac.uk/ena/browser/home>).

This Local Contexts Hub Project aims to provide a means for ensuring indigenous sovereignty and fair access and benefit sharing of all genomic data and/or intellectual property

Project Notices



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