Seminar/Talk

The evolution of sexually dimorphic gene expression in Rana temporaria

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Host: Beatriz Vicoso

Sex determination in Rana temporaria varies across the species range. High altitude and high latitude populations often have fully male-specific haplotypes on the Y chromosome, whereas low latitude and low altitude populations lack male-specific regions in the genome. In some populations, sex determination is polymorphic; some males possess distinct Y chromosome haplotypes on chromosome 1 (referred to as XY males), while others do not (referred to as XX males). We hypothesized that XY males may have accumulated male-beneficial alleles. However, no phenotypic distinction between XX and XY males has been detected in morphology, hormone production, or reproductive success. We then tested whether XY had a more masculinized gene expression profile than XX males. We sequenced transcriptomes from females, XX males, and XY males from an alpine population. Few genes were differentially expressed between XX and XY males, and there was no enrichment of male-biased genes in XY males relative to XX males. Contrary to our expectation, we detect no masculinizing effect of the Y chromosome, suggesting there is no advantage of male-specific alleles in R. temporaria.

Monday, May 15, 2017 11:00am - 12:15pm
Experimental Biology Room (I04.2OG - LAB)

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