

Young inversion with multiple linked QTLs under selection in a hybrid zone**2017**

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Fixed chromosomal inversions can reduce gene flow and promote speciation in two ways: by suppressing recombination and by carrying locally favoured alleles at multiple loci. However, it is unknown whether favoured mutations slowly accumulate on older inversions or if young inversions spread because they capture pre-existing adaptive quantitative trait loci (QTLs). By genetic mapping, chromosome painting and genome sequencing, we have identified a major inversion controlling ecologically important traits in *Boechera stricta*. The inversion arose since the last glaciation and subsequently reached local high frequency in a hybrid speciation zone. Furthermore, the inversion shows signs of positive directional selection. To test whether the inversion could have captured existing, linked QTLs, we crossed standard, collinear haplotypes from the hybrid zone and found multiple linked phenology QTLs within the inversion region. These findings provide the first direct evidence that linked, locally adapted QTLs may be captured by young inversions during incipient speciation.

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