Hybridization upon secondary contact - the purple-edged copper butterflies (*Lycaena hippothoe*) in the Swiss Alps

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During glacial periods, many species have retracted their ranges into one or multiple glacial refugia where they diverged over time. Zones of secondary contact between closely related lineages or species that arose in such geographically isolated refugia provide the outstanding opportunity to study speciation because often reproductive isolation is not yet complete. Here, I study a zone of secondary contact between two subspecies of the purple-edged copper *Lycaena hippothoe*, i.e. *eurydame* and *euridice* in central Switzerland combining a machine-learning approach to capture phenotypic variation with ecological and whole-genome data. Unlike for other butterflies that form secondary contact zones, I found substantial gene flow between the two subspecies over an extensive range. Importantly, my results implicate that while non-admixed *euridice* still exist at high elevations, no pure *eurydame* individuals occur anymore at low elevation in this region. The increased genetic admixture is moreover associated with increased phenotypic variation, likely swamping potential prezygotic barriers. Consequently, the contact zone populations show little reproductive isolation given the amount gene flow and resulting hybrids.