DELVING DEEPER: QUESTIONING THE DECLINE OF LONG-TONGUED BUMBLE BEES, LONG-TUBED FLOWERS AND THEIR MUTUALISMS WITH CLIMATE CHANGE

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Media coverage and science outreach have brought research on bee declines and climate change to the masses. Given the increased attention to these fields and associated policy implications, we feel it is crucial that the best available science is accurately represented. We critique a recent paper by Miller-Struttmann et al. (2015) that finds striking evidence of tongue length shortening in two North American alpine bumble bee species. Miller-Struttmann et al. (2015) suggest that reduced flower abundance due to climate change has driven the evolution of shorter tongues and resulted in a mismatch between long-tongued bees and long-tubed plants. We accept the evidence that tongue length has decreased, but are unconvinced by the evolutionary explanation offered, particularly the role of climate change and its effects on bumble bee diet. In our critique, we stress that Miller-Struttmann et al. (2015) overstate the ability for bees to rapidly adapt to environmental change and suggest that such a conclusion be interpreted with caution. Because the finding of decreased tongue length fascinates us, we conclude our critique with alternative explanations for why this may have occurred.

Bombus sylvicola, an alpine bumble bee species, forages on Hymenoxys grandiflora. B. sylvicola is one of two species found by Miller-Struttmann et al. (2015) to have experienced decreases in tongue length over the past four decades.