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### **FIRE MAINTAINS COEXISTENCE OF DIVERGENT FLOWER FORMS**

Sam McCarren<sup>1</sup>, Anton Pauw<sup>2</sup>, Bruce Anderson<sup>3</sup>

<sup>1,2,3</sup>Stellenbosch University, Stellenbosch, South Africa

<sup>1</sup>University of Cape Town, Cape Town, South Africa

#### **ABSTRACT**

Pollinators are known to generate divergence in floral form, but if this does not result in the utilization of different ecological niches, upon secondary contact divergent forms are unlikely to coexist in the long-term. *Lapeirousia anceps* corolla tubes have diverged in response to pollinators with different proboscis length, and at a secondary contact zone, long- and short-tubed plants appear to coexist without much geneflow between forms. It is unclear, however, whether these forms occupy different niches and if one form will outcompete the other.

We show that as the veld ages, the density of *L. anceps* plants, pollinator visitation rates and the relative abundance of long-tubed plants decrease. Patterns of selection on tube length also appear to shift temporally, suggesting that the short and long tubed plants may occupy different post-fire niches. This illustrates how temporal heterogeneity of the environment caused by fire can promote divergence and coexistence of divergent forms. However, it also suggests that diversity may be threatened if natural disturbance regimes are changed or improperly managed due to climate change, grazing, or human induced fires.