red alert for the RED LARK

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Endemic to some of the most arid parts of South Africa, the Red Lark may be negatively impacted by even slight warming. There are also concerns about the collision risk with wind farms which are being erected within this species' range.

Heatwaves are becoming more frequent and intense. During June this year, temperatures above 48 degrees Celsius in the American southwest resulted in dozens of flights out of Phoenix airport being grounded; many aircraft cannot take off safely under such conditions. Earlier, in February 2017, on the other side of the planet, yet another wave of mass mortality events struck flying foxes along Australia's east coast, the bats dying in their thousands because of extreme heat. Over the past few decades, these flying fox die-offs have become regular occurrences rather than the occasional events they were in the past.

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Birds that inhabit hot, arid regions are particularly vulnerable to heatwaves and species whose entire ranges are restricted to desert habitats are of greatest concern. In southern Africa, one could easily argue that the endemic Red Lark *Calendulauda burra* represents the arid-zone species most vulnerable to climate change. Confined to the sand dunes and gravel plains of Bushmanland in the Northern Cape, Red Larks survive and breed in some of the hottest and driest habitats in the region. One of the lark's strongholds is the dune-covered Koa River Valley, near the small mining town of Aggeneys, and many birders add the species to their life-lists here.

The Red Lark is currently red-listed as Vulnerable. The entire global population is thought to consist of fewer than 10 000 individuals, having declined as a result of habitat loss and land degradation. An additional threat potentially faced by the lark is that of renewable energy developments, such as the large wind farm currently under construction north of Loeriesfontein. Like other larks with aerial display flights, the Red Lark may be at significant risk of collision with the turbine blades.

The Red Lark is the focus of a new Fitztitute project that started this year. Ryno Kemp will be studying the species for his MSc as part of the Hot Birds Project, a collaborative research programme that involves researchers from the Fitztitute and the University of Pretoria. Working near Aggeneys, Ryno will collect the physiological and behavioural data necessary to understand the energy and water balance of the larks under current and future climates. This work will take place in the framework of a cutting-edge approach developed by scientists in Australia and the US, which was recently used to model the habitat requirements of Australia's newly rediscovered but still enigmatic Night Parrot.

Ryno's work on Red Larks will identify the links between the survival and breeding success of the birds and their physical environment and will provide a framework for evaluating habitat suitability in the context of the birds' physiological tolerances. The project will link closely to Robin Colyn's planned work for BirdLife South Africa in the Northern Cape, which is designed to better understand the factors determining the distribution of restricted-range species in the region, including Red Larks. Together these studies will provide the basis for identifying critical habitat for the lark under present and future conditions and will better inform sensitivity mapping for future wind farms and solar facilities in this far-flung corner of South Africa.

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