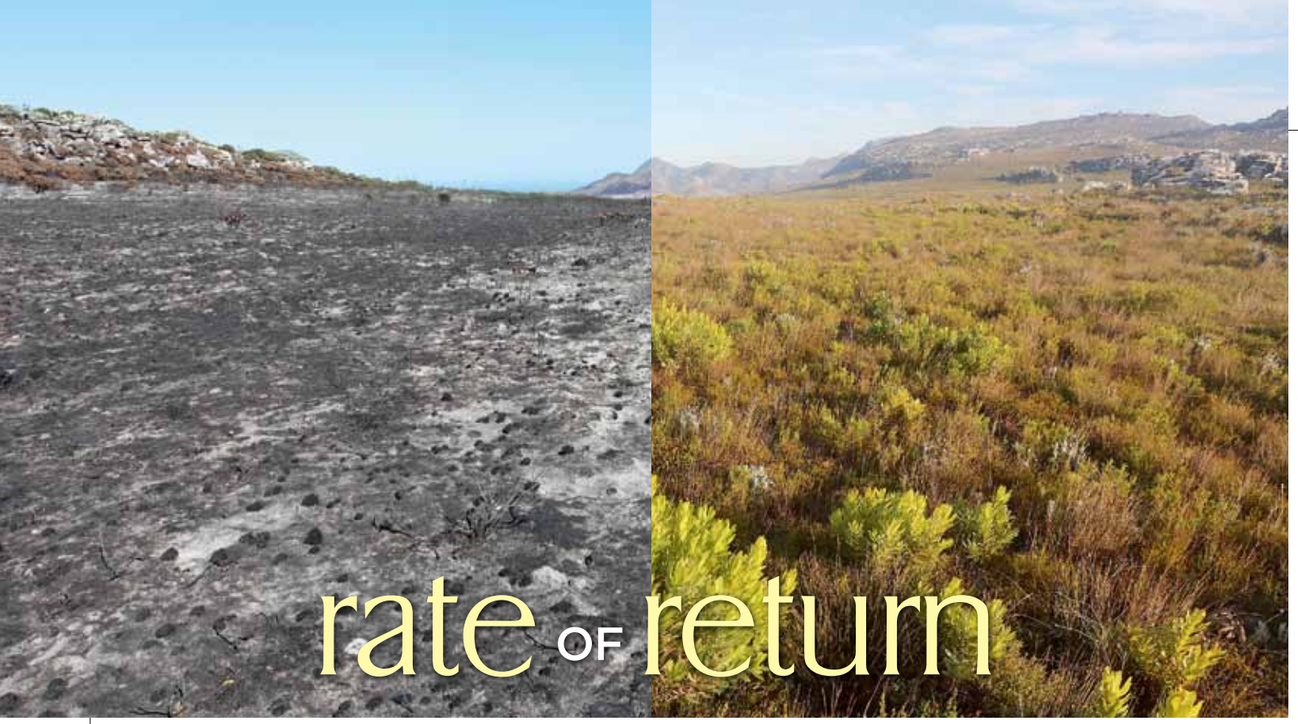

rate OF return

Fynbos is a fire climax community, which means that it requires fire to persist. The dominance of fynbos in the south-western tip of Africa is intimately linked to the occurrence of fires. Fynbos became the dominant vegetation type in the region some 4 million years ago, when fire displaced most of the region's forests. However, recent studies indicate that fire played a key role in the evolution of this unique flora at least 20 million years ago and may have shaped its earliest origins some 70 million years ago.

Fynbos plants use a variety of strategies to survive fires. Some re-sprout from underground storage organs, some store their seeds in woody cones that only open after fire, and others rely on ants to bury their seeds, which require specific chemical signals found in wood smoke to germinate. Linked to these diverse survival strategies, plants also differ in their ideal inter-fire interval. Some species, like the fire lilies, emerge immediately after a fire, flower and set seed, then remain dormant until the next fire. For them, frequent fires are beneficial. Others, like some proteas, are obligate re-seeders that require sufficient time between fires for their seeds to germinate and grow into plants large enough to produce a good crop of seeds before the next fire.

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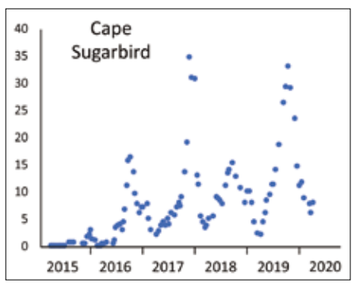
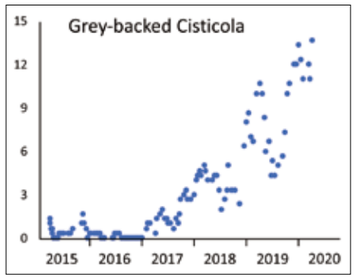
above *Steenberg Plateau a few days after the March 2015 fire (left) and five years later (right).*

left *Cape Sugarbird numbers show regular seasonal peaks, gradually increasing in abundance each year after the fire, apart from the drought in 2018.*





Botanists still debate the ideal fire frequency, but it is generally thought to be in the range of 12 to 20 years, depending on rainfall – higher rainfall generally leads to faster regrowth and thus shorter intervals between fires. However, it is clear that at a landscape scale, plant diversity is maximised by having a mosaic of different-aged stands of fynbos.

We have long known that fynbos birds also prefer different ages of fynbos in the fire-succession cycle. Some species move into areas immediately after a fire. For example, Plain-backed Pipits enjoy the space to walk around unhindered and Cape Siskins exploit the flush of seeds released from long-term storage organs (for instance, *Leucadendron* cones). Others, such as Cape Sugarbirds, tend to wait for their preferred food source – large protea bushes – to recover, which might take several years.

Because birds move around, detecting vegetation preferences is complicated by spill-over from patches of different-aged vegetation. A bird might forage in otherwise unsuitable vegetation if it lives in a nearby patch of suitable habitat. Thus the best way to detect the core niche requirements for fynbos species is to study their occurrence in very large stands of even-aged vegetation. Such an opportunity was afforded by the massive fire that ravaged much of the central Cape Peninsula in March 2015 (see *African Birdlife* 3(4): 14–16).

A juvenile Grey-backed Cisticola perches on a bergpalmiet Tetraria thermalis *flowerhead. This species was a scarce, localised resident prior to the fire, but its numbers began to increase two years after the fire and it is now much more common and widespread in the area.*

Since that fire I have been counting birds in 10 sectors of the mountain on average every two to three weeks. It has been fascinating to track the recovery of the birds in tandem with that of the vegetation. As reported in the 2015 *African Birdlife* article, most fynbos birds remained in the burnt area immediately after the fire, with Cape Sugarbirds being the most notable absentee. It took more than five months before the first sugarbird was seen again and the species' numbers were very low that first spring. Since then, sightings have increased each successive spring, except in the drought of 2018. By comparison, numbers of Orange-breasted Sunbirds recovered >

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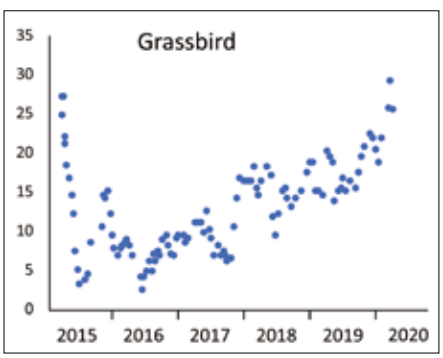

Cape Grassbird numbers were high immediately following the fire, when they were concentrated into a few tiny patches of unburnt vegetation. But they fell dramatically within a few months of the fire – presumably as a result of the birds either having moved away or died. It has taken five years for the species' numbers to recover to the same level as that recorded immediately after the fire.

within a year of the fire and have remained more or less constant.

Numbers of sugarbirds and Malachite Sunbirds show marked seasonal patterns. Both species apparently move out of Peninsula mountain fynbos in late summer, but Malachite Sunbirds are away for only a few weeks, whereas sugarbirds are absent for longer (although this trend has decreased in the past few years as protea stands begin to mature).

Compared to the nectarivores, the numbers of resident warblers have increased gradually during the five years since the fire. The Cape Grassbird pattern is perhaps the most interesting, showing a rapid decline from the large numbers counted in the area immediately after the fire. It is only now, five years later, that its numbers are finally reaching the pre-fire figures.

By the first anniversary of the fire, 53 species had been recorded, including virtually all of the fynbos 'specials'. During the second year, perhaps the most notable addition was Cape Longclaw, which arrived on Steenberg Plateau in January 2017 and has remained since then, although its recording rate has dropped considerably in the past year or so. It was a bit of a surprise at the time because it wasn't a species I'd seen on the mountain before the fire.

Year three saw the arrival of three new cisticolas to the plateau. Zitting and Cloud cisticolas both arrived in June 2017. Zitting Cisticolas continue to be recorded sporadically, but Cloud Cisticolas were only seen into early July and then disappeared again. A pair of Levaillant's Cisticolas arrived in August 2017 and the species has remained in the area, slowly increasing in numbers.

By year four, the vegetation had recovered well and I started calling for Striped Flufftails at their old haunts. However, that year saw very little change to the bird list, with only Red and Yellow bishops being added, both as transient species. Year five was more rewarding, with five new species recorded, including most excitingly Hottentot Buttonquail. But there was still no hint of a flufftail.

Finally, on 1 June 2020, the day Table Mountain National Park reopened after the Covid-19 lockdown, I got a response from a Striped Flufftail on Steenberg Plateau. With such a secretive species, it's possible that it has been back for some time and I have simply failed to detect it, but the flufftails often respond to imitations of their call, so I am fairly confident that it has taken about five years for the vegetation to become suitable for this species. With recolonisation more or less complete, I can look forward to monitoring the birds' responses to further maturing of the vegetation.

I'm grateful to Chevonne Reynolds, Dom Rollinson and Susie Cunningham for keeping the counts going while I have been away on far-flung islands.

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