



space invaders

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Accipiter tussle on the Cape Peninsula

Although the displacement of native biota by introduced invasive species is well known and considered to be one of the major threats to biodiversity, it usually involves species

introduced directly by human intervention, either intentional or unintentional. Less well documented is the expansion of indigenous species' ranges as a result of habitat modification by humans.

In both cases, potential negative effects of invasive species may be their suppression of native populations through predation, competition, parasitism or disease. One intriguing example is the range expansion by African Goshawks and, more recently, Black Sparrowhawks into the Cape Peninsula and the resultant sympatry with Rufous-breasted Sparrowhawks.

While all three species occur together locally in parts of north-eastern South Africa and all have benefited from the planting of alien trees, only Rufous-breasted Sparrowhawks were historically found in the greater Cape Town area. African Goshawks became regular in the region in the late 1960s and Black Sparrowhawks arrived in the 1990s. Investigation of the changes in the reporting rates for all three species between 1982 and 2018 on the Cape

left A ringed light-morph Black Sparrowhawk research bird on the Cape Peninsula.

above Its crop full, a dark-morph Black Sparrowhawk cruises its territory.



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Peninsula, using data from the *Atlas of the Birds of the Southwestern Cape* and from the two data-collection periods of the Southern African Bird Atlas Project (SABAP1&2), revealed an interesting relationship between these hawks over time.

In the 1980s, when Black Sparrowhawks were absent from the Peninsula, Rufous-breasted Sparrowhawks were recorded roughly twice as often as African Goshawks. Black Sparrowhawk reporting rates increased from the early 1990s and were already higher than the other two species by the time SABAP2 started in 2008. Since then, African Goshawk reporting rates have increased slightly relative to the 1980s, while the Rufous-breasted Sparrowhawk has become the accipiter least often recorded on the Cape Peninsula.

These trends may be influenced by competition between the three species, including the partial displacement of Rufous-breasted Sparrowhawks, given the limited availability of breeding and hunting habitats within the landscape. The increase in Black Sparrowhawks is consistent with a population increase in a dominant colonising species.

Although competition for prey may have added to the decline in Rufous-breasted Sparrowhawks after 2008, it is unlikely to be a major factor because the diets and hunting strategies of the three species differ to some extent. Rufous-breasted Sparrowhawks use open habitat pursuit to prey on small (10–90 grams), mostly passerine birds, whereas African Goshawks use woodland pursuit and perch ambush to prey on medium-sized doves and young gamebirds (heavier than 100 grams). Black Sparrowhawks use open pursuit and ambush and will chase prey items in a broad range of sizes. It is therefore more likely that the decline in the two smaller species has resulted from territorial aggression and even predation by Black Sparrowhawks.

Black Sparrowhawks have been seen to kill both of these smaller accipiter species on the Cape Peninsula and their remains have been found below

Black Sparrowhawk nests. The fact that Rufous-breasted Sparrowhawks and African Goshawks breed close to Black Sparrowhawk nests within pine plantations on the peninsula suggests a shortage of suitable habitat, because elsewhere the smaller accipiters tend to avoid woodlands in which Black Sparrowhawks nest. The paucity of suitable sites has been exacerbated in the past decade or so by the clearing of many pine plantations, particularly those within the bounds of the Table Mountain National Park.

The westward expansion of the ranges of both Black Sparrowhawks and African Goshawks along the southern coastal region of South Africa was most likely facilitated by human alteration of the landscape through the establishment of exotic timber plantations and woodlots, which led to the sympatry of these three species on the Cape Peninsula. It is reasonable therefore to suggest that this is a case of indirect human-caused alien invasion.

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above A Rufous-breasted Sparrowhawk perched in a pine tree.

below A parent African Goshawk with a prey item for its fledgling chick.

