

Four birds of prey, likely raptors, are shown in flight against a clear blue sky. The birds are captured in various stages of their wing strokes, with their wings spread wide. The lighting is bright, highlighting the dark feathers and the white patches on their chests and heads. The overall composition is dynamic and emphasizes the power and grace of these birds.

PIED *pirates*

CROW THREAT TO RAPTORS?

There has been much debate about the effects on biodiversity of increasing Pied Crow and other corvid populations in Africa, but little has been quantified. It is evident from the latest bird atlas data that there are now more Pied Crows in southern Africa than there were a decade ago and that the species has spread into areas of the Karoo where it did not occur previously. But what effect is this having on other bird species? >

TEXT BY ROB SIMMONS & PHOEBE BARNARD

Various reports indicate that crows are impacting negatively on other creatures in their environment. Farmers complain about increasing predation by 'crows' on lambing ewes, birders suggest that more attacks are occurring on passerine birds, and conservationists and members of the public report greater numbers of crows killing small tortoises. However, almost nothing has been quantified as to the level of such predation, the magnitude of the upsurge in crow interactions and the effect on the species being attacked. We do not yet have such data, but we do take a first look at what may be an increasing and somewhat surprising addition to the negative effects of crows – those on birds of prey.

In the course of 10 years' field work on harriers and kestrels along South Africa's West Coast we have observed a slow increase in the Pied Crow population in areas such as the West Coast National Park and along the stretch of road between Steinkopf and Port Nolloth in the Northern Cape. During this time we observed at least five incidents of Pied Crows in pursuit of raptors carrying prey, calling as they closed in and thus attracting additional crows. Three of these incidents involved Black-shouldered Kites,

one a Rock Kestrel and another a Southern Pale Chanting Goshawk, all of which were carrying mice in their talons. Prey-carrying raptors are usually provisioning dependent females or nestlings, so piracy affects more than simply the bird with the food.

The following three incidents serve to highlight the *modus operandi* of the crows. We then investigated other parts of Africa to determine if piracy targeting raptors is limited to western South Africa as a zone of Pied Crow range expansion or is a more widespread strategy.

In the West Coast National Park in 2008, our attention was drawn to a Black-shouldered Kite that was calling from a height of over 150 metres and circling upwards while being pursued by a single Pied Crow. As the kites were breeding in trees on the east side of Langebaan Lagoon, we presumed that this one's prey was intended for its dependants. After about two minutes of circling and swooping by the first crow, a second Pied Crow appeared, flapping vigorously, calling noisily and circling to gain height. The approach of the second crow caused the kite to drop its prey. One of the crows caught the kill in mid-air and all the birds descended without further interaction. The two crows landed in large trees about 500 metres into the marsh, where we presumed they had a nest. The kite made no attempt to retrieve its prey.

In the second incident, in September 2009, a pair of calling Pied Crows attracted our attention. They were in pursuit of a Rock Kestrel about 40 metres above the ground in coastal fynbos in the Rondeberg Nature Reserve. The kestrel, which was breeding nearby, was clutching a mouse in its talons. Both crows dived at the kestrel, which initially evaded them easily but soon tired under their combined attack. After another two minutes of pursuit, the kestrel relinquished its prey. The mouse was deftly retrieved by one of the two crows, which was then promptly chased by the other. The kestrel flew away, making no attempt to recover its kill. It was in all likelihood breeding in one of the nearby nest-boxes, but this could not be verified.

In the third incident, recorded at midday on 9 September 2010 in farmland south of Elands Bay, a prey-carrying Black-shouldered Kite was observed circling about 80 metres above the ground and being chased by a single Pied Crow. Both

Previous spread *Feeling outnumbered...* A trio of White-necked Ravens vies for airspace with a Verreaux's Eagle in the mountainous terrain they both inhabit. As the largest member of the crow tribe, ravens make formidable and persistent aerial opponents.

Below A Pied Crow and a Yellow-billed Kite vie for possession of a mouse carried by an out-maneuvred Black-shouldered Kite.



ROB SIMMONS



JAN COETZEE

...we take a first look at what may be an increasing and somewhat surprising addition to the negative effects of crows – *those on birds of prey*

birds were calling. After about a minute of pursuit, during which the crow was slowly gaining on and swooping at the kite, a second Pied Crow approached and entered the fray. The kite avoided its pursuers with relative ease until another raptor, a Yellow-billed Kite, joined the attack. Under the combined attention of the three scavengers, the Black-shouldered Kite released its prey, which appeared to be grabbed by one of the crows as the Yellow-billed Kite flew away unharassed. The Black-shouldered Kite then descended rapidly over our vehicle, screaming loudly, and headed towards a tree on the roadside, where it struck another, previously unobserved Black-shouldered Kite in the back, causing the perched bird to squeal and fall about two metres. Despite this act of misplaced aggression, the first kite made no attempt to retrieve its prey.

Subsequent to these observations, in October 2010 natural history filmmaker Claudio Velásquez Rojas witnessed a Pied Crow in the West Coast National Park fly down to an active Black-shouldered Kite nest, remove a 'pale object' and fly off with it, hotly pursued by a parent bird. We assumed it was a young nestling, and if this is the case it would be the first evidence we have of direct predation.

It is only in the last three of the 10 years we have spent on the West Coast that we've witnessed such kleptoparasitic attacks by Pied Crows on raptors. These four incidents in three regions spaced more than 100 kilometres apart indicate that such piratical activity is not a learned behaviour localised to a few individual crows. And it may be on the increase, judging from the apparent recent rise in frequency, perhaps in concert with the growing crow population.

Pied Crows along South Africa's West Coast have thus far limited their piratical attacks to the smaller raptors. However, in our study areas, even though the crows have had ample chance to see and pursue other prey-carrying raptors, notably Black Harriers, African Marsh-Harriers and African Fish-Eagles, we have seen few interactions between crows and harriers. Is this the norm?

To answer this we solicited information through the African raptor specialists' list-server africanraptors@yahoo.com. ▷

Stealth bomber takes on the B52! Cape Vultures (adult shown) and Bearded Vultures are often the subject of attacks by ravens and this is particularly prevalent at vulture restaurants where both gather to feed. The ravens appear to target flight and tail feathers in their harassment.



this article; the hawk was injured and required veterinary treatment before it could be released.

But do crows influence raptor breeding success? In one of the few published accounts of crow impacts on raptors (*Animal Conservation* 2002(5): 21–28), Arjun Amar and Steve Redpath found that crows do indeed occasionally attempt piracy of Hen Harriers in Scotland (one success in three attempts). The researchers then tested to see if Carrion Crow (a sorry grey version of southern Africa's Pied Crow) numbers were affecting harrier breeding. They first demonstrated that Carrion Crow numbers had increased by 80 per cent in 16 years, and then removed crows from certain Hen Harrier territories. By placing artificial eggs in ground nests they showed that fewer eggs were lost in territories where crows had been removed and that crows were thus significant egg thieves. However, the same was not true of crows on real Hen Harrier nests; the removal of crows had no effect on nest success, presumably because Hen Harriers effectively prevented crows from stealing eggs or nestlings. This is one of the few experimental tests of crow numbers on breeding success and the results indicate that we must not jump to conclusions that crows are having a negative impact just because of their opportunistic behaviour.

In summary, it appears that while crow behaviour is not limited to piracy and is not restricted to small raptors, it does have a direct effect on food acquisition by scavengers and in some instances can lead directly to the death of nestlings. However, most of these observations are anecdotal and we do need a more concerted study of crows, preferably with removal experiments, to determine to what degree they are influencing raptor populations. It is also important that we assess the effect on other vulnerable species, such as tortoises, small mammals and passerine birds. □

ACKNOWLEDGEMENTS

We thank all correspondents, particularly Simon Thomsett, Daudi Petersen, Peter Usher, Louis Phipps, Sonja Krueger, Ann Koeslag, Sharon Yodaiken, Rita Hofmeyer, Yvonne Githiora, Arjun Amar and Claudio Velásquez Rojas, for their observations.

Augur Buzzards are one of the main victims of harassment by Pied Crows in East Africa, but piracy of prey has not yet been recorded.

We received six responses from experienced raptor-watchers: three each from East and southern Africa.

Daudi Petersen indicated that in 2006 Pied Crows killed a fledgling Verreaux's Eagle-Owl on the nest at Olasiti, Arusha, Tanzania. Although the owl pair have remained on the territory, they no longer breed. The crows also regularly harass and steal prey (such as hedgehogs) from the owls, and harass Augur Buzzards. Petersen ascribed this to crow numbers reaching unnaturally high population levels.

In two other responses, Peter Usher reported and photographed Pied Crows pestering several East African birds of prey such as Augur Buzzards and kites, but no piracy was involved. Similarly, in South Africa, vulture researchers Sonja Krueger and Louis Phipps reported that Pied Crows and White-necked Ravens increasingly hassle Bearded and Cape vultures at vulture restaurants and have been seen pulling their tail feathers both on the ground and in the air. Persecution is well known at the Giant's Castle vulture restaurant in the KwaZulu-Natal Drakensberg, where both Cape and Bearded vultures are bullied by crows and ravens to the extent that visitors now complain about the perceived 'crow problem'.

At a feeding site in Dundee, also in KwaZulu-Natal, White-backed Vultures perch in the surrounding trees but do not feed because the crows chase them as soon as they attempt to land, feed or fly past. Culling 'a few' crows has made very little difference there, but the harassment varies seasonally and disappears in spring.

East African raptor guru Simon Thomsett reported that a month-old Martial Eagle nestling was killed on its nest in Kenya by Pied Crows that pecked its eyes out, after a local herder kept the parent birds away. Pied Crows also successfully chased and pirated Lanner Falcons and Tawny Eagles that were preying upon starlings at a colony. Thomsett further notes that House Crows profitably target other raptors in coastal Kenya and that flocks of Pied Crows try to wrest prey from hawks or falcons sitting on recent kills in Kenyan farmland.

A fifth incident reported from South Africa in September 2009 by Ann Koeslag involved a pair of Pied Crows harassing a breeding Black Sparrowhawk carrying prey. The sparrowhawk was returning to its nest but the persistent mobbing of the crows forced it to drop its prey. Koeslag says this is unlikely to be the only such incident and she may have missed others during her 10 years of monitoring Black Sparrowhawk nests. This is borne out by the grounding of an adult Black Sparrowhawk by a mob of crows at the University of Cape Town during the writing of