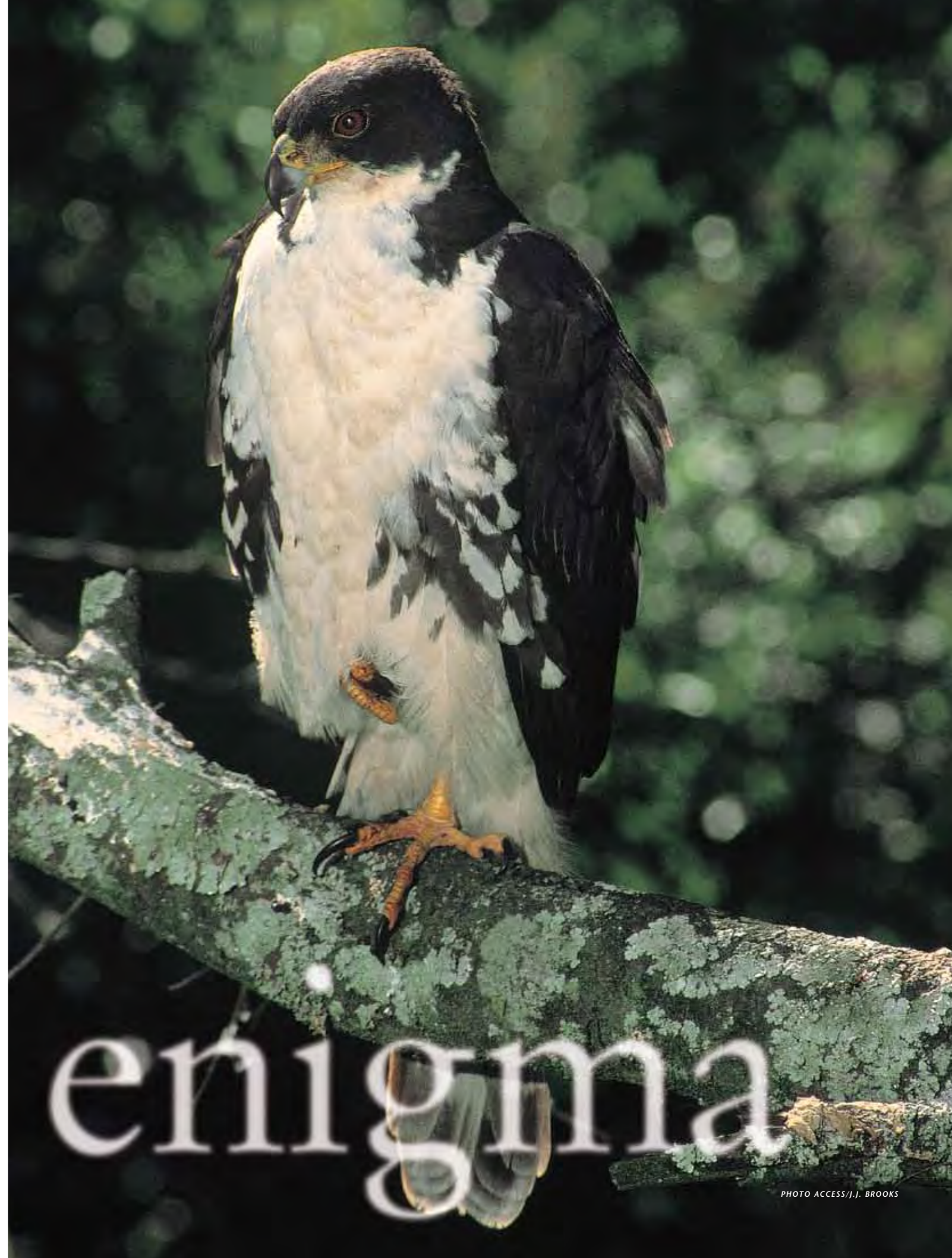


It's a typical winter's morning in the Western Cape – cold, damp, grey. Within the stand of pine trees it is dark, almost eerie, as the sun's rays barely touch the canopy. The sounds of guinea-fowl awakening from their roost, Egyptian Geese disputing territories and hadedas calling raucously over the forest canopy are all characteristic in this modified environment.

I wander deeper into the dark interior of the forest and stumble on the evidence of a serial killing: bones and feathers, flecked with dried blood, litter the forest floor. As I stoop to collect the remains of the victims, I become aware that I am being watched. I glance up and there she sits, the silent assassin, perched high above me. Her long tail, slender build, blood-red eyes and aristocratic stance command respect. Her presence is strangely compelling, sinister. She weighs no more than a kilogram, yet here she is queen of the forest, the Black Sparrowhawk *Accipiter melanoleucos*. ▽

Forest

enigma



A flock of Helmeted Guineafowl forage, unaware, at the edge of the forest and her attention slowly shifts to them. She stares intently at the gamebirds below her and I sense that she is considering taking one on. But she must choose her moment and her individual target carefully as, even though she has the equipment and the power to tackle and kill one, a flock of guineafowl will turn on an attacking hawk. A Black Sparrowhawk female typically weighs less than a kilogram, while a full-grown male guineafowl tips the scale at approximately two kilograms.

This demonstrates the power in this tenacious hawk – the largest breeding Accipiter in Africa. To tackle a guineafowl,

the hunter must know exactly what she is doing and be in complete control as there is always a small chance she may receive a fatal kick from this big gamebird. The male Black Sparrowhawk (which weighs only about 450 grams) will seldom, if ever, attempt to take a guineafowl under natural conditions. In most instances, being bird-hunting specialists, both sexes prey primarily on doves and pigeons.

Suddenly I hear a soft ‘chipping’ sound, which grows louder and crisper as everything else in the forest falls silent. The female perks up, the guineafowl get a reprieve, and she gives a loud scream as she flies in the direction of the call. It is her partner in crime and he has brought food – the ‘chipping’ is his way of alerting her to this. She snatches the Laughing Dove from him and immediately flies up to her nest. Her two chicks are excited by her arrival and crab across the nest structure, desperate to be fed. They are still small and downy, unable to feed on their own. She becomes a different creature on the nest – calmer, gentler as she carefully pulls off small pieces of meat and delicately feeds them to the chicks. The surprising tenderness with which she does this is engaging to watch.

Some weeks later I return to the nesting area and am delighted to find the forest floor littered with many more bones and feathers and to hear a desperate, frantic wailing which reaches the far ends of the forest. This calling, although described by the daily forest-walkers as resembling ‘a baby being murdered’, is music to my ears. It is the sound of healthy (but hungry) fledged chicks, pleading with their parents to bring them food. Although they are able to fly well and their feathers are fully developed, their hunting skills at this stage leave much to be desired and they are totally dependent on the adults to provision them. This dependency may last two months or longer, until the fledglings are forced to learn to fend for themselves and face the many hazards that life presents to a young hawk.

As part of the Western Cape Raptor Research Programme (based at the Fitzpatrick Institute), we began studying Black Sparrowhawks on the Cape Peninsula four years ago. Essentially, the project entails colour-ringing adult birds and monitoring their nests. The melanistic (black) form is rare in this species in the



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Above The adult female checks on her well-fed nestlings, now approximately four weeks old.

Opposite A juvenile Black Sparrowhawk gorges on its guineafowl kill.

Below Jumping for joy – a young Black Sparrowhawk exercises on the nest, just days away from fledging.

eastern and northern reaches of its distribution. In the Western Cape (and particularly on the Peninsula), however, more than 80 per cent of the adult birds are melanistic, many of these birds having no white markings on their throats whatsoever. It is an interesting pattern, and one that we do not yet understand.

To date we have located 23 nests (there are probably at least another five to 10 pairs) and trapped and marked 20 adults. All the nests are in alien pine, poplar or eucalyptus trees and it is obvious that the alien-vegetation clearing initiatives which are gaining momentum on the Peninsula and elsewhere pose a serious threat to Black Sparrowhawk habitat. However, it is as well to remember that the species has been able to adapt to exploit these alien trees and make a home for itself in a ‘new’ environment. It is partly for this reason that its numbers and range have increased dramatically, to the point where the Black Sparrowhawk can now be encountered in many places that were not part of its historical range.

In the past in South Africa, it was confined to breeding in large, indigenous



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trees (such as yellowwoods, mahoganies and *Ficus* spp.) in Afromontane forests along the south and east coasts. Through the years about 45 per cent of this indigenous forest (and therefore, sparrowhawk habitat) has been completely destroyed and it is possible that in some areas alien plantations are fulfilling the much-needed role of these lost trees.

This is an idea that tends to spark heated debate among ornithologists, as information about the historical distribution and density of this species in certain areas (particularly the Cape Peninsula) is scant and raises the question as to whether the Black Sparrowhawk 'belongs' in certain areas (even if they contain indigenous forest) in the first place.

How alien tree removal affects raptors is a contentious and complex issue and one that is increasingly being raised with reference to Black Sparrowhawks. But perhaps the inevitable removal of this habitat will allow us to learn more about the sparrowhawk. By colour-ringing enough adults we will be able to monitor their movements and breeding activity, and as the alien-clearing projects proliferate and begin to impact on hawk populations, we should learn more about how the birds respond to radical habitat loss.

It will pose a number of questions. Are pairs generally faithful to each other and their nest sites? How far do they move to set up a new territory once a nest-tree has been felled? How do nesting densities change as felling increases? How does breeding success change with increased felling? The results of such research may also give us greater insight into similar problems happening in more natural ecosystems (for example, hawks in Madagascan forests).

The earliest known Black Sparrowhawk nest on the Peninsula was recorded less than 10 years ago; prior to that there were almost no records of breeding activity in the area. The only evidence that this species occurred there historically is a single record from Andrew Smith, an early collector, of two immatures from Wynberg in the 1830s, which suggests that the bird had bred in the Cape in the past. (Elsewhere in the country, it was always described as 'rare'.)

Therefore it was either overlooked on account of its rarity and its secretive nature or it really did not occur on the Cape Peninsula. Many ornithologists argue that the sparrowhawk is an 'alien' on the Peninsula and that it has only managed to disperse into this area and proliferate because of its ability to exploit alien trees.

But while it is likely that this species occurs on the Peninsula at densities disproportionately higher than they would have been originally, can we assume that it was never here to start with? The Peninsula certainly had some forested valleys, such as Orangekloof and Newlands, yet little is known about the extent and composition of these forest pockets and even less is known about the historical distribution of accipiters in the area. The closest neighbouring forests would probably have been those at Grootvadersbos, near Swellendam – a fair distance from the Peninsula. But whether this was too far for the birds to disperse to the Peninsula is debatable.

It is conceivable that this hawk did naturally occur on the Peninsula and that severe deforestation in the late 1600s saw the destruction of existing nests and the decline of the species in the area. A couple of pairs may have remained – this is an elusive bird that is easy to overlook, more so in indigenous habitat. Eucalyptus and pine plantations were first cultivated in the mid- to late 1800s. Why the hawks did not respond sooner to this 'new' habitat is not clear. Perhaps it takes a species longer to adapt to such a change than one might expect. Alternatively, with the spread of agriculture and urbanisation, prey abundance (in the form of pigeons, doves and large gamebirds) would almost certainly have reached higher levels more recently and perhaps sparrowhawk range expansion has been more closely linked with this habitat change than with alien tree invasions.

Either way, it is generally agreed that the Black Sparrowhawk is either a fairly recent 're-coloniser' or a 'new coloniser' on the Cape Peninsula and in adjacent areas. This may explain certain traits that are unique to this population, such as smaller broods, early winter breeding (some nests start as soon as March, while in other parts of the country breeding generally starts in July) and an unusually long breeding season (lasting up to nine months). ▸

On the Cape Peninsula, the melanistic morph of this sparrowhawk is more common than the white morph, for reasons that are not understood.



Attempts to double-brood have been recorded on several occasions on the Peninsula, but all but one appeared to fail during the incubation period. Black Sparrowhawks in KwaZulu-Natal have successfully raised more than one brood per season (one pair raised three consecutive broods). Clearly, the species has the capacity to double- or multiple-brood, but the mechanisms behind this unusual trait are unclear. It is likely that this is largely a function of the artificial abundance of the hawk's primary food source (pigeons) which has been boosted by man's changes to the environment through urbanisation and agriculture. The more food that is available to the sparrowhawks, the more energy-reserve they have to breed, and the possibility of them raising a second brood thus increases.

Both feral and indigenous doves and pigeons have proliferated in cities and they are major attractants to bird-hunting raptors. The Black Sparrowhawk is just one species that has managed to exploit this super-abundance of prey: African Goshawks, Red-breasted Sparrowhawks, and Peregrine and Lanner falcons have all responded in a similar fashion. Why double-brooding is so rare (despite an extended breeding season) and why it has not been adopted in any of the other bird-hunting raptors is not known. It is conceivable that this trait would be more common on the Peninsula if it weren't for interference from a rather large and intrusive waterbird...

Egyptian Geese and Black Sparrowhawks have probably been adversaries for centuries, although this conflict has certainly become more apparent recently, as both species have responded positively to anthropogenic changes in their environment. The Black Sparrowhawk builds a large, sturdy stick nest, perfect for supporting the incubating female and later her two or three chicks until they are almost fully grown. It is also ideal for the robust and invasive Egyptian Goose, which regularly commandeers sparrowhawk nests. Naturally, no Black Sparrowhawk would be too charmed by having a big goose take possession of its nest, especially considering the significant amount of time it takes to build (up to two months).

However, contrary to what might be expected – that the hawks would be able



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to challenge a goose and win – the goose is often the victor and the sparrowhawks simply have to wait their turn to make use of their own nest. We have often seen them doing this: a bird (usually the female) will perch, either in the nest-tree itself or in one nearby, waiting impatiently, while the incubating goose keeps a close eye on her. As soon as the goose has finished making use of the nest, the sparrowhawk will reclaim it. But once a nest has been used and abandoned by a goose, it is often so damaged from her weight that it collapses and the hawks need to build a new one. At other times, however, they don't rebuild the nest and therefore do not manage to breed in that particular season. We suspect that if it weren't for interruptions of this sort, more sparrowhawk pairs would fledge chicks and more might attempt to double-brood.

Despised by chicken-keepers and pigeon-fanciers, revered by falconers and raptor-philers and sought-after by twitchers, the Black Sparrowhawk is certainly not a bird that has gone unnoticed. To those of us who admire it, every encounter we have with this black hawk is breathtaking and beautiful. An important top predator □

A Black Sparrowhawk nest in a small stand of Eucalyptus trees. This predator has extended its range as a result of its ability to exploit manmade habitats.

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