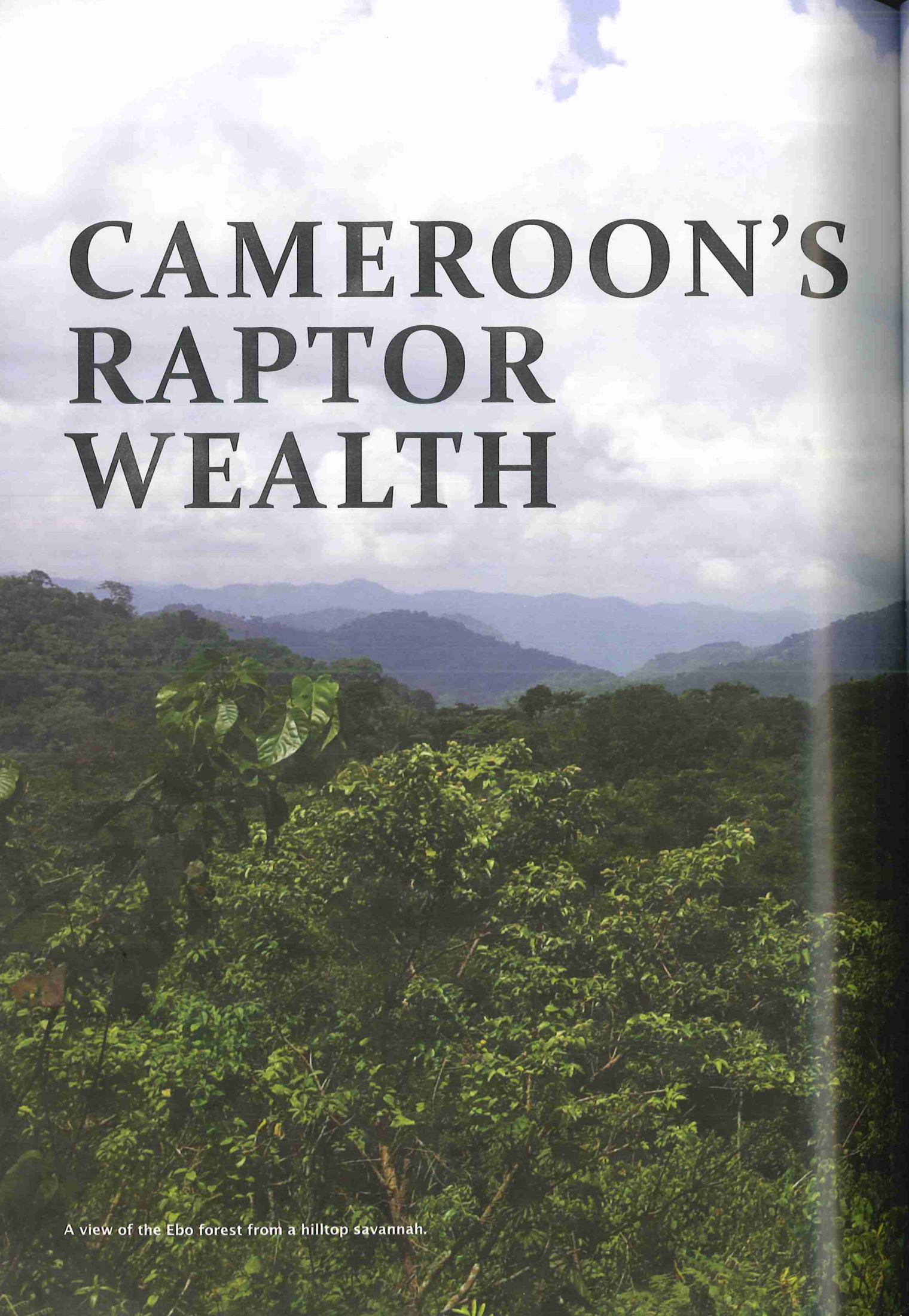
CAMEROON'S RAPTOR WEALTH



A view of the Ebo forest from a hilltop savannah.

THE AUTHOR

ROBBIE WHYTOCK is currently a third-year student at the University of Stirling, UK where he is studying a BSc (Hons) in Conservation Biology and Management. He's employed as a field ecologist and carries out ornithological surveys for renewable energy projects throughout Scotland. In 2006 Robin moved to Cameroon where he became involved with the Ebo Forest Research Project (EFRP). He began the first long-term ornithological surveys of the forest with a particular focus on raptors as well as the enigmatic grey-necked rockfowl. Robbie's fieldwork in Ebo was funded by The Peregrine Fund's Africa program

The wildlife of Cameroon remains poorly known and is often overlooked by both researchers and tourists alike, despite an enormously diverse range of species and habitats. Cameroon is home to West Africa's highest peak, Mount Cameroon, which stands at over 4000m and is an active volcano. The mountain forms part of the Cameroon highland chain where dozens of endemic species are found including the Mount Cameroon Francolin, Bannerman's Turaco, Lake Oku clawed frog, drill and Preuss' Red colobus monkey. Habitats include over 400km of Atlantic coastline as well as vast tracts of lowland and montane rainforest in the South and desert in the northern extremes.

The commercial bushmeat trade has become a major global conservation issue in recent years, particularly in the expansive tropical forests of equatorial Central and West Africa. No animal group is unaffected and in Cameroon species ranging from gorillas to duiker, goliath frogs and Palm-nut Vultures are all being hunted at unsustainable levels. Humans have always hunted in tropical forests but until as recently as the 1980s this was almost exclusively for subsistence purposes. In contrast the commercial bushmeat trade is a highly organised and lucrative industry supplying the ever expanding urban population with wild meat. The transition to commercial hunting happened for a variety of reasons, including an increasing urban population, improved transport links and access to modern firearms. In most countries affected, including Cameroon, the bushmeat trade is highly legislated against yet enforcement is often near absent due to wildlife protection agencies being under-resourced

and other law enforcement agencies unconcerned. This is symptomatic of the problems facing the natural resources of many countries in Central and West Africa.

The majority of wildlife research carried out in Cameroon is focused on primates and mammals in general, which naturally attract more funding from international donors. Research into the bushmeat trade has also been centred around mammals which make up the bulk of biomass extracted from forests and sold in urban markets. Birds, amphibians, reptiles and fresh-water fish are sold in significantly smaller quantities. The general consensus has been that these groups are comparatively unaffected by the bushmeat trade.

In 2008, I began working as a Research Associate with the Zoological Society of San Diego's Ebo Forest Research Project (EFRP) in Cameroon.

OVER TIME I VISITED NEW SITES IN THE FOREST AND FOUND MORE EVIDENCE OF RAPTOR PERSECUTION. THIS INCLUDED REMAINS OF AN IMMATURE CROWNED EAGLE AND IMMATURE CASSIN'S HAWK-EAGLE IN A HUNTERS' CAMP AS WELL AS THE REMAINS OF SMALL HAWKS IN SNARES.

The proposed Ebo forest National Park covers nearly 1100km2 of lowland and sub-montane rainforest and the EFRP has been operating two permanent field stations there since 2005; employing local biologists and former hunters as field assistants. My passion has always been for forest raptors but I initially concentrated on looking for nests of the Grey-Necked Rockfowl, an enigmatic and poorly known bird of the Lower Guinean forests. This shy and very peculiar species has a bright bald, red and blue head, is the size of a small chicken and leaps through the forest in quick bounds. Even more curious are the large mud nests it builds on the sides of exposed boulders. This work formed the basis of my long term ornithological research in the Ebo forest and I soon began to turn my attentions to raptors.

The stunning and poorly known Grey-necked rockfowl (*Picathartes oreas*).

Top: Remains of a Crowned Eagle in a hunter's camp from earlier work in 2009.
Insert: Remains of a White-thighed Hornbill *(Bycanists albotibialis)*.

With the exception of Palm-nut Vultures and African Harrier-Hawks, diurnal raptors are generally difficult to see. We recorded 13 species in the forest and its outliers in over a year of fieldwork but densities appeared low, although this was entirely anecdotal. Crowned Eagles were seen on only one or two occasions, despite the fact that they often perform impressively loud, unmistakeable displays above the canopy. This contrasted with a 2001 ornithological survey which suggested Crowned Eagles were common in the Ebo forest and the surrounding Yabassi Important Bird Area.

I initially put this down to my own inexperience and the difficulties associated with detecting birds in dense, closed canopy rainforest with the often deafening drone of cicadas. I had found evidence of Crowned Eagle kills such as dismembered monkey remains and there had been a handful of reports from hunters who had heard Crowned Eagles in display, but little more. It wasn't until one of our senior field assistants, Zacharie Bekokon (a former hunter), demonstrated a method he had previously used to hunt monkeys that I realised there may be a clear explanation for the apparent low density of Crowned Eagles in the Ebo forest.

He took a spent shotgun cartridge and made a small hole in the side which he could blow through. The moment he started whistling through the cartridge I recognised the sound as a crowned eagle, and so did the forest. White-thighed Hornbills barked alarms and an adult male flew into the tree above us where he sat and knocked his hollow beak against a branch, warning others of our presence. Moments later a male Spot-nosed monkey uttered a subdued, stuttering alarm call only metres away; we had no idea he was there beforehand. In the distance we

PHOTO BY: ANDRE BOTHA

Adult Palmnut Vulture (*Gypohierax angolensis*) from recent hunter camp surveys.

could hear a group of smaller Red-tailed guenons frantically moving through the canopy in a high pitched frenzy of alarm calls. It was immediately clear that mimicking a Crowned Eagle in display was a useful tool for a hunter trying to locate monkeys. However, what I found more interesting was that Zac recounted several close encounters he'd had with Crowned Eagles when using the call. It is likely that the birds had responded to a perceived territorial threat and would subsequently be shot on approaching the hunter. Zac then went on to show me his ability to mimic Blue duiker as well as several primate species; all Crowned Eagle prey. These calls also had the ability to attract crowned eagles within shooting distance. This information drowned any hope that my lack of Crowned Eagle encounters was solely down to my own inexperience.

Over time I visited new sites in the forest and found more evidence of raptor persecution. This included remains of an immature Crowned Eagle and immature Cassin's Hawk-Eagle in a hunters' camp as well as the remains of small hawks in snares. I also found remains of other birds including Hornbills, Guineafowl and Grey-necked rockfowl, suggesting that birds may be affected by the bushmeat trade at levels higher than previously reported.

Crowned Eagles have occasionally been documented for sale in urban markets along with other large raptors such as Palm-nut Vultures. However the total number of individuals recorded in the literature remains extremely low, perhaps only in the dozens across several years of intensive market surveys which have recorded thousands of mammals. In conversation, hunters suggested that they would preferentially eat large birds over mammals when working and camping in the forest, because birds have no commercial value. This is the reason birds are rarely found in urban markets, but it also means there is little evidence from market surveys to show they may be experiencing significant hunting pressure. Unfortunately for a low valued species such as a Crowned Eagle, which has an extremely slow reproductive rate, even light hunting pressure could mean that local populations are very quickly wiped out.

It immediately became clear that I needed to assess the levels of hunting facing raptors in the Ebo forest. Many hunters here are from far afield, such as the Bertouans originating from the east of Cameroon bordering the Central African Republic. Evidence of unsustainable hunting pressure in the Ebo forest may well indicate problems elsewhere in the region, where comparatively little ornithological research is carried out.

In 2011, with financial assistance from The Peregrine Fund, British Ecological Society and Leslie Brown Memorial Award, Zac and I began surveying hunters' camps in the forest. We began visiting camps throughout the forest on a regular basis over a 10 month period and documenting remains of animals. Zac hired local guides in several villages to take him to the camps and carefully photographed all evidence of fur, feathers and bones. We recorded over 10 species of bird during the survey, with raptors and hornbills making up the largest proportion of carcasses. Other animal remains included various mammals, snakes, crabs and fish. The proportions of birds and mammals found in our survey were significantly

different from those previously reported from urban market surveys. Nobody would disagree with the evidence that mammals form the greatest proportion of carcasses extracted from the forest, but it has become apparent from our work that bird populations are also being seriously affected. Urban bushmeat market surveys have documented thousands of mammal carcasses; however the unanswered question is just how many birds and other non mammals are taken to sustain the hunters when harvesting mammals for sale?

Immature raptors are well known for being inquisitive, stemming from their hunting instinct, and a Crowned Eagle might live for 20 years in the wild. They are intelligent birds and any that escape a shot from a hunter will quickly learn to avoid humans. However immature birds may be killed with relative ease. It's therefore possible that in 2001 when Crowned Eagles were assessed as common, cautious adults continued to hold territories and display regularly. However over time these adults have died off and few immature birds have reached maturity to replace them, resulting in a dramatic decline in the population. In addition, Crowned Eagle populations may be declining in the forest zone due to a reduced prey base (as a result of hunting) and decreasing habitat caused by logging and commercial plantations. The combination of these factors has probably had a significant effect on their populations. Our data suggest that the same may soon happen to Palm-nut Vulture populations, the most commonly eaten raptor in the Ebo forest. Adults are very commonly encountered but juveniles are rarely seen and, when they do encounter humans, they inevitably approach within shooting distance without encouragement. This is bad news for the future of this species in the Ebo forest.

A typical hunter's camp used regularly by hunter's and in this instance by Ebo Forest Research project staff.

Our results are of course only the very tip of the iceberg and just one example of a forest experiencing excessive levels of hunting pressure within a greater, increasingly threatened area. Urban markets are straightforward to survey and give a good indication of the pressures many species are facing as a result of the bushmeat trade. However, the often hidden activities and behaviours of hunters in the forest should not be overlooked and the commercial bushmeat trade may be having effects yet to be fully uncovered. The only hope for raptors in the forest zone is the continued education of local people and governments, where protection and sustainable use of all natural resources becomes a priority for all.

PHOTOS BY: ROBBIE WHYTOCK

Although still relatively common in the Ebo forest, monkeys such as this Red-tailed Guenon (*Cercopithecus erythrotis*) are in decline.