

There, we soon located a Long-billed Pipit, also singing from the top of a low bush. We watched this bird for some time, again taking recordings. Leon was by now also persuaded that the mystery birds could represent a new taxon of *Anthus* endemic to Nairobi Park.

Steven's father, Wayne Easley, has since contributed more photographs of Long-billed Pipits taken in Nairobi Park. Images of the two forms have been tabled at the meetings of various ornithological sub-committees, where all present have agreed that this pipit looks different, and is not on the existing Kenya List.

Since the discovery, many other people have seen the birds, which can quite easily be found in the vicinity of Nairobi Park's Kitembe Forest, and which – it now seems – may occur nowhere else.

Earlier this year, permission was sought to net some of the birds, to obtain their DNA from blood samples. This would help scientists to determine whether the pipit is indeed a separate species, or whether it is, after all, just the *chyuluensis* subspecies of the Long-billed Pipit.

That permission was duly granted. And, on Sunday, 10 November 2002, a team representing the NMK Ornithology Department, the Nairobi Ringing Group, and the Kenya Wildlife Service, as well as leading ornithologists and ornithological researchers – succeeded in capturing two of the birds. Before they were released, and while blood samples were being extracted, close-up photographs were taken of both birds in the hand.

If, as I expect, these 'forest' pipits turn out to be genetically quite distinct from the Long-billed Pipit, then Kenya will formally acquire a new endemic bird species. And, while it may not have a name just yet, the Nairobi Pipit suggests itself as the most obvious choice.

So, there we have it: A new bird species turns up, not in any of the remote island or mountain fastnesses that birders' dreams are made of, but instead in a busy national park located within spitting distance of one of Africa's most visited capital cities.

And its novelty becomes apparent, not with that flash of instant recognition that is always so exciting in dreams, but after years – many years – of painstaking observation, consultation and deduction.

This is a humbling lesson, perhaps, for those of us who, in pursuing the dream, have seen fit to scour the backmost reaches of beyond in the quest for new bird species. The Nairobi Pipit, as it may one day come to be called, has been here – lurking quietly undetected in our midst – all along.

Elephants, buzz off!

Our most recent experiments show that bees may offer a simple and practical answer to elephant control, say Fritz Vollrath and Iain Douglas-Hamilton.

Ngai laughed only twice. Or so the Maasai legend has it – at least, as reported in Guggisberg's charming *Elephant Safari Guide*. The first time Ngai laughed since the beginning of the world was when, looking down from the top of Kilimanjaro, he saw some huge grey beasts that had been pushing over mighty trees turn tail suddenly and run away, chased by a very much smaller two-legged creature carrying a long stick.

Ngai laughed for the second time when, looking down again some years later, he saw a group of the same two-legged creatures, which had been seated around a fire, jump up suddenly and run off frantically, pursued by thousands of tiny, winged creatures that had emerged from a nearby tree.

With our new 'guardian-bee' method of elephant control, we aim to circumvent the humans in the Maasai legend – by setting the bees directly upon the elephants. Early experimental evidence suggests that by doing this we may have found a way of managing elephants – to some extent.

Bees may be useful in guarding against elephant damage in that the pachyderms seem to steer clear of bushes and trees that have been 'mined' with bee-hives. We are extending our guardian-bee experiment to

see if the aggressive insects can be used in shamba protection as well.

The idea of using bees in elephant control came not so much from Maasai legends as from a conversation over dinner with John Wreford Smith at Mpala Ranch in Kenya's Laikipia area. We were talking about the many all too obvious signs of ruinous depredation by elephants in the beautiful riverine fever-tree forests lining a nearby stretch of the Ewaso Nyiru River.

A few of the trees here are venerable old giants whose imposing and grizzled trunks are surprisingly still intact. Some of the other trees are mature emergents with yellow bark extending all the way down to the ground – except in the many, many places where this bark has been stripped away, leaving the trunks heavily scarred, marked and often decaying.

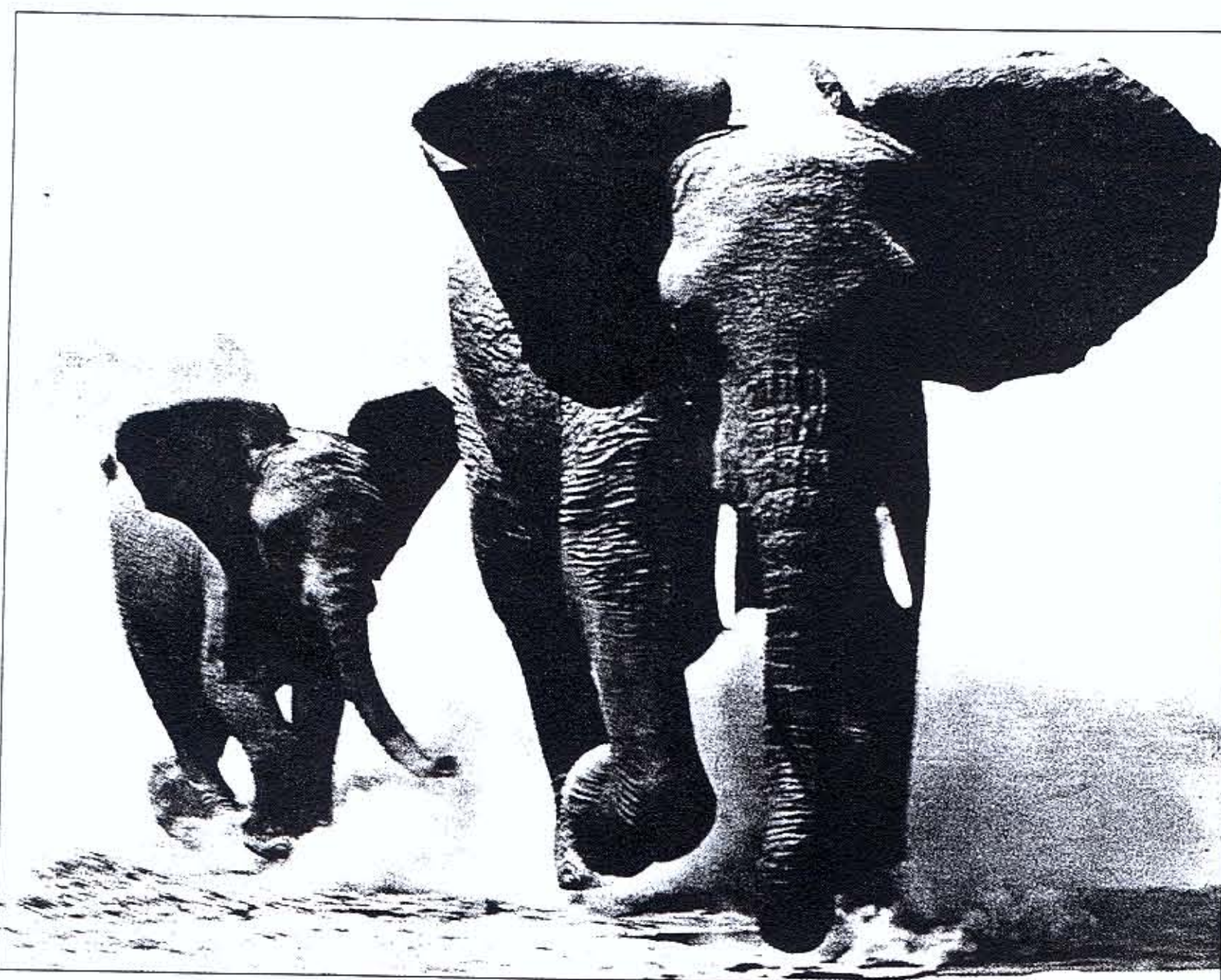
Most of the trees, however, are little more than grotesquely misshapen big bushes with broken, twisted trunks and branches that have been eaten back and regularly stripped naked of all their bark, spines and leaves. And all this, needless to say, is the result of elephant damage!

Our evening conversation led to follow-up enquiries around Laikipia. From these, it soon became clear that other Kenyan bee-



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keeping ranchers were toying with the idea of using bees as guardians against elephant damage. Both Colin Francombe at Ol Ari Nyiro Malo and Gilfrid Powys at Kisima, for instance, were wondering how bees and elephants might interact. But the clincher, if I can call it that, came when we talked to the bee experts from 'across the river'.

We interviewed a number of the best known Lewaso bee-keepers. From them we learned that all (!) had witnessed, often on several occasions, the sight of bees chasing elephants for miles, after the pachyderms had meddled with their hives. Some of the Lewaso bee-keepers had seen such chases taking place even on moon-lit nights. For clearly, bees do not take kindly to having elephants interfere with their hives; and the pachyderms seem not to be so pachyderm after all when it comes to bee stings.

Further evidence for pachyderm soft spots came from a talk with Dan Subaitis, the trainer of Booper, a 20-year-old bull elephant on Ol Jogi Ranch. Four years ago, while out on a walk with Dan, Booper was seriously stung by a migrating swarm of angry bees that for some reason decided that attack was the only recourse. Booper went wild at first, and not long afterwards the flesh around his eyelids began to swell

Destructive craving: Fever trees are especially attractive to elephants because of their sap, which is unusually sugar-rich compared with that of other trees. Bee-hives, placed in such trees, have been shown to act as an effective deterrent in limiting the extent of damage inflicted on these trees by hungry elephants.

On the run: could stings from angry bees be what has put these elephants to flight? Swarms of bees have been seen to chase elephants for distances of up to five kilometres. Sensitive areas of thin skin on the bellies, behind the ears, around the eyelids, and on the inner trunk membranes of elephants are especially vulnerable to bee-stings.

until both eyes were completely shut. With the help of strong antihistamine injections, the swelling eventually subsided about 24 hours later.

Booper has clearly never forgotten this unhappy experience. For even now, four years later, his reaction to any tree with a loudspeaker in it playing the sound of 'Angry Bees Humming' is one of obvious panic and discomfort. (The strains of Beethoven's Violin Concerto in D Major, Opus 61, incidentally, had no effect whatsoever on him.)

Clearly, the initial bee encounter has negatively conditioned Booper in such a way that he will immediately stop feeding and turn away in obvious alarm on sensing the likely presence (even just auditory) of bees in a 'food tree'.

We have since also tried to gauge the effects on wild elephants of bee-humming and violin concertos (using works by Bach, among others). But results so far from these experiments have been more ambiguous, and the tests are still continuing. It appears that wild elephants are also worried by the sound of angry bees, but their proximity to the sound (that is, the loudspeaker) and other variables relating to the experimental

situation seem to play an important (and so far confounding) role as well.

Turning away from observing the direct effects of bees on elephants, we decided to look into their indirect effects. On Mpala Ranch, we set up an experiment where a few areas of riverine vegetation supporting a high density of fever trees (*Acacia xanthopholea*) were 'mined' with bee-hives. Fever trees, incidentally, are particularly attractive to elephants because of their sap, which is unusually sugar-rich compared with that of other trees (such as *Acacia tortilis*) that are apparently attacked more for the calcium present in their bark.

Initial results indicate that even empty hives appear to provide some degree of local protection to the trees that carry them. Occupied hives, on the other hand, act as a total deterrent, ruling out even the smallest degree of nibbling on even the furthestmost tips of branches. Obviously, the hives must be positioned at elevations low enough to allow the approaching elephants to smell the bee/honey/propolis mix and/or to hear the bees humming. Hives suspended high in tree crowns (as is normal in these parts) seem to have little or no effect as guardians.

We are now setting up more detailed experiments, including studies into the possible use of bees in shamba protection. Under these circumstances, of course, the bees need to be handled much more carefully. For African bees are notoriously dangerous when aroused, and an attack en masse can easily kill a human being.

Only time will tell how good a guardian the bee can be. But even a limited degree of protection would be very welcome. The guardian-bee concept is both natural and economic in that it requires no unsightly wires, while honey sales would pay for the hives and their maintenance.

While we are studying this concept, any observations and suggestions from SWARA readers are most welcome. You can address your comments to < fritz@mpala.org >, or to < iain@africaonline.co.ke >. Failing that, you can post your observations either to Fritz Vollrath, Mpala Research Centre, Box 555, Nanyuki, or Iain Douglas-Hamilton, Save the Elephants, Box 54667, Nairobi. 🐘

The findings of the Fritz Vollrath-Iain Douglas-Hamilton 'guardian-bee' experiments were first published in the November 2002 issue of the German on-line life sciences journal Naturwissenschaften. Further information is posted on < www.savetheelephants.com >.