# Mystery owl gives two hoots

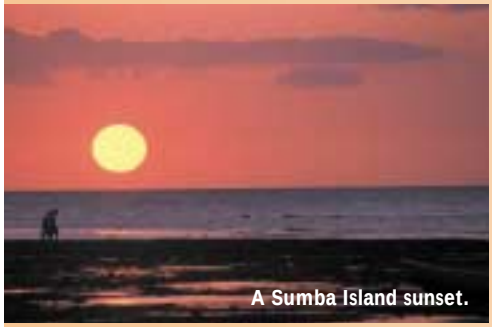
**Only 11% of forest on the Indonesian island of Sumba remains, confined to small, fragmented pockets. Discovery of the 'little Sumba hawk-owl' highlights the need for conservation.**

For 15 years, the identity of an owl on the island of Sumba, Indonesia, has remained a mystery. From torchlight glimpses, ornithologists speculated it was a Sumba boobook owl or the flores scops owl. But this year two Australian scientists identified the owl as *Ninox sumbaensis*, a new species and a relative of Australia's powerful owl and southern boobook.

The discovery came after Jerry Olsen of the University of Canberra's Applied Ecology Research Group, and his colleague, Susan Trost, journeyed to Sumba in December 2001, to find the owl and confirm its identity. The pair hired a Sumbanese guide to lead them through mountain forest to the place the owls had last been sighted, braving malaria-carrying mosquitoes, crocodiles and distrustful locals along the way.

'Many locals think that owls are used by their enemies to steal the spirits of family members, and young men would race up to villages to protect their relatives when they heard we were in the area,' Olsen recalls.

At the top of the mountain, the pair broadcast the call of the mystery owl, described as a 'monosyllabic hoot repeated about every three seconds', from a tape recording made by British ornithologist Mark Linsley. But no owls replied.



A Sumba Island sunset.

'After standing for another half hour in the dark listening to geckos and insects, we decided to try a second place where birdwatchers had heard the mystery owl,' Olsen says.

Some 15 kilometres east of the first site, the pair walked by moonlight and torchlight across a jagged limestone ridge and scorched grassland to a forest remnant. Trost then broadcast the owl's call.

'First we heard nothing, but after about 10 minutes two owls called back,' Trost says.

The scientists followed the owls as they drifted from tree to tree, concealing themselves behind leaves and branches. Eventually the owls settled, with one sitting directly over the scientists' heads and calling to the disembodied hoots emanating from the recorder. Olsen and Trost were quick to video, photograph and audiotape it.

'The owl was reddish, the size of a quail, and had loose feathers and bright staring eyes, like flat yellow buttons,' Olsen says.

'It had no ear tufts, which you'd expect if it was related to the flores scops owl, and we realised it might be a different species: maybe a new species of "hawk-owl" like the southern boobooks we studied in Canberra.'

In the following two weeks, Olsen and Trost returned to the site and located two other pairs of owls in adjacent forest. A few days later, they were given a specimen of the owl, killed by a local bird hunter.

While the death of the owl was unfortunate, it gave the scientists the opportunity to study the bird up close. The tiny animal, weighing only 90 grams, had a number of physical characteristics that suggested a *Ninox* heritage. These included a lack of ear tufts, a bulbous cere with nostrils located at the front, and an indistinct 'facial disk'.

'Many owls, such as barn owls, hunt by sound as much as they hunt by sight, and have what look like dishes or discs around their eyes to collect sound,' Olsen says.

'But most diurnal hunting birds, such as hawks, do not have these discs, as they use vision rather than hearing to hunt. *Ninox* owls, like the powerful and boobook owls, do not have a facial disk. Hence the name "hawk-owls".'

To confirm the owl's identity, Olsen and Trost sent feathers from the specimen to their colleagues, Professor Michael Wink and Dr Hedi Sauer-Gürth, at the University of Heidelberg in Germany. Mitochondrial DNA analysis of the feathers confirmed that the owl belonged to the *Ninox* clade.

It was a hawk-owl, like the southern boobook, but its DNA differed from southern boobooks by 8.2% and from the brown hawk-owl of east and South-East Asia by 9.1%.

The owl also differed from known hawk-owls in its size, being much smaller, and its call. Olsen says most *Ninox* have a double-noted call like the European cuckoo, the call that German clock makers use in cuckoo clocks. But the song of the new owl was a single, repeated note.

'There is no similar song known for any *Ninox*,' Olsen says.

Olsen and Trost have given *Ninox sumbaensis* the common name of 'little Sumba hawk-owl'. Its discovery highlights the need for conservation in the region.

'Owls in this region are poorly known and it's possible that other bird species may be undescribed,' Olsen says.

'It is critical to describe new species, determine the conservation status of new and known species, and conserve the unique yet increasingly degraded forests on these islands.'

## More about the owl

Olsen J Wink M Sauer-Gürth H and Trost S (2002) A new *Ninox* owl from Sumba, Indonesia. *Emu* 102: 223–231.

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