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New records of Sokoke Scops Owl *Otus ireneae*, Usambara Eagle Owl *Bubo vosseleri* and East Coast Akalat *Sheppardia gunningi* from Tanzania

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This paper summarizes significant new records for three threatened forest birds, mostly recorded during fieldwork for the Cambridge Tanzania Rainforest Project in the East Usambara Mountains in 1992 and follow-up surveys in 1993. A full report on these surveys, which include work on mammals, amphibians, African violets *Streptocarpus* spp. and human use of the forests can be found in the Cambridge Tanzania Rainforest Project (in prep.).

Six study sites were visited in July–September 1992, five in the Sigi-Muse valley (centred on 38°43E, 5°00S) at 200–400 m altitude (Kambai Forest Reserve, Segoma Forest Reserve, Kwamgumi Forest Reserve, Marimba Forest Reserve and Kambai Public Land) and one about 10 km to the east on the coastal plain at 180 m (Mtapwa Public Land). Two sites, Kambai and Kwamgumi Forest Reserves, were revisited in September–October 1993. Mist-netting was performed at the first five sites. All consisted of lowland semi-deciduous forest. In total, six threatened and three near-threatened bird species were found.

There are perhaps 125 km^2 of gently-sloping lowland forest below 400 m in the Usambaras and a further 108 km^2 on steep slopes from 400–800 m (see Evans *et al.* in prep, Cambridge Tanzania Rainforest Project in prep.). It is thought that the avifaunas of these two habitat types may differ significantly (Evans *et al.* in prep.). Clearance for agriculture will soon destroy all lowland forest outside government forest reserves and even forest reserves are being degraded by pit-sawing and cutting of poles for building.

Species accounts

Sokoke Scops Owl *Otus ireneae*

Recent records

A rufous-phase Sokoke Scops Owl was caught at dusk, low down in a mist net in Kambai Forest Reserve in August 1992. On the follow-up visit in 1993, the call of Sokoke Scops Owl was heard and tape-recorded in Kwamgumi Forest Reserve (three birds simultaneously on the one night of the visit in October) and Kambai Forest Reserve (one bird on most of the nine nights of the September visit). These are the first records for Tanzania and the first away from the type locality, Arabuko-Sokoke Forest in Kenya (Ripley 1966).

Call

The call was a string of monotonous whistles uttered a little less than 1 s apart. They were in bursts of 10–20 (not 40–120 as noted in Britton & Zimmerman (1979)) with a pause of up to 1 min between bursts. In quality, the call was indistinguishable from the recording on Marshall (1978). Calling was not heard at dawn or dusk, but otherwise continued throughout the night, individual birds sometimes calling for hours on end. Birds called from up to 15 m up in tree crowns and were extremely difficult to see.

Description

Photographs of the bird in the hand have been compared with specimens in the British Museum (Natural History) (one bird) by team members and in the National Museum of Kenya, Nairobi (two birds) by Dr Leon Bennun and team members. There were slight differences, but these are thought to be due to individual variation in view of the similarity in the calls.

Table 1. *Biometrics of the Usambara individual, the type specimen of Sokoke Scops Owl (from Ripley 1966), two caught by Kelsey & Langton (1984) and four caught by Munir Virani (*per *L. Bennun,* in litt., *1993) in Arabuko–Sokoke Forest*

Individual	weight (g)	wing (mm)	bill (mm)	tarsus (mm)	tail (mm)
Kambai FR	51	120	10.0	21.0	62
Type	–	112.5	9.5	20	65.5
Kelsey & Langton	46, 53	115, 119			
M. Virani	51, 43, 51, 46	116,120, 120, 124		17.0, 21.8, 22.1, 23.2	60.3, 58.5, 55.4, 61.3

In addition, Ripley & Bond (1971) list three other specimens, weighing 46 g, 50 g and 55 g.

Plumage description (taken at time of capture)

Overall: small, generally cinammon brown, paler below but still cinammon. Many cream shaft-streaks, marked fore and aft with black, on head, back, wing- and tail-coverts and underside.

Head: facial disc cinammon, as head. Few black markings and many creamy shaft streaks without black marks. Black "eyebrows". Crown feathers with diamond-shaped black spots.

Upperside: nape, mantle, upper tail-coverts, scapulars, lesser and median coverts, with cream and black blob-shaped shaft streaks.

Underside: breast to belly pale cinammon with black and cream shaft streaks. Feathers of lower face slightly more heavily spotted. Vent pale tawny. Undertail-coverts pale tawny with small black tips. Undertail pale brown with black blotching.

Tail: cinammon above with blotchy black bars. Outer webs of outer tail feathers have a creamier base colour, base colour becoming progressively more cinammon towards the central pair.

Upperwing: alula—inner two feathers barred cinammon and black, like tail. Outer feather with five bold white spots on the outer web. Greater coverts cinammon with a large amount of black blotching, especially the greater primary coverts. Primaries black, spotted with white on the outer web of the outermost few, spots becoming tawny by the innermost primary. Three tawny spots on each inner web. Secondaries barred cinammon on black.

Underwing: lesser coverts pale tawny inside, black with tawny tips towards the carpal joint. Greater coverts cream, tipped black. Flight feathers as upper surface, except the pale spots become creamy-buff, or white on the outermost few primaries.

'Bare' parts: iris: yellow; bill: pale creamy-horn; gape: mostly pink; rictal bristles: black; feet: pink; claws: black; legs: feathered.

Conservation status

It seems likely that a full survey using playback of the call would reveal quite a large population in these two forests and others in the lowlands. Such a survey is a high priority. When considered restricted to Arabuko-Sokoke, the species was listed in Collar & Stuart (1985) as Endangered, the highest category of threat. This is now clearly too pessimistic—the population and degree of threat are probably comparable to that of the Usambara Eagle Owl *Bubo vosseleri*, which is listed as Rare.

Usambara Eagle Owl *Bubo vosseleri*

Previous records

The Usambara Eagle Owl is a poorly known bird. Following its discovery in 1908 (Reichenow 1908) it was not found again until 1962 (Moreau 1964). By 1985 there had been only 19 records (Collar & Stuart 1985) and the bird was listed as globally threatened, with status Rare, in the *African Red Data Book* (Collar & Stuart 1985). As a measure of its scarcity, White (1974) never heard in the wild the call he knew from a captive bird, despite living at Amani in the East Usambaras for four years, except when a single wild bird called in response to the captive one. All confirmed records were from between 900 m and 1300 m in the submontane forests of northeast Tanzania, mostly from the Amani area but with a few from the eastern slopes of the West Usambaras. There was also one possible sight record from the Nguru Mountains (Moreau 1964).

The bird is closely related to Fraser's Eagle Owl *Bubo poensis*, a relatively common lowland forest species from west and central Africa, though their ranges are over 1000 km apart (Olney 1984). Moreau (1964) and Olney (1984) discuss the plumages of what were then considered subspecies—*B. p. poensis* and *B. p. vosseleri*. Both considered the Usambara population as an 'incipient' species. White (1974), who had heard the calls of both forms, thought that *vosseleri* was significantly different. Subsequently *vosseleri* has been recognized as a full species by Collar & Stuart (1985), Turner *et al.* (1991) and Sibley & Monroe (1993).

Recent records

There have been a considerable number of recent records which indicate that the range,

and thus the population of the species may be considerably larger than previously thought. They are listed below, along with a description of the bird's suspected call.

1990 a call believed to belong to this species (see below) was tape-recorded at 850 m in submontane forest on Mt Mtai, in the northeast corner of the East Usambaras in July 1991 (Evans & Anderson 1992).

1991–1992 a single bird was seen on at least ten occasions from September 1991–March 1992 by Dr Alan Tye (pers. comm. 1992). It was seen by night along the road leading down from Amani, at around 850 m in submontane forest. It was often disturbed from the ground on the road, and flew off into the forest. The call has been heard on several occasions at a site on Monga Tea Estate at 950 m near Amani (pers. obs., A. Tye verbally 1992 and I. Robertson verbally 1992).

1992 one bird was mist-netted in lowland forest at 200 m altitude in Kambai Forest Reserve. This is apparently only the second adult ever caught in the wild (Collar & Stuart 1985). A call believed to be of this species was also heard throughout the study period—at Kwamgumi Forest Reserve (up to three birds calling on most of the 23 nights spent at the site), Kambai Forest Reserve (one bird calling on one night), and at Segoma Forest Reserve (up to two birds calling on many nights). On the follow-up visit in 1993, single birds were heard in Kwamgumi (October) and Kambai Forest Reserves (September–October) and more recordings were made. It is not known whether the lack of records from Kambai (Semdoe) Public Land and Marimba Forest Reserve represent genuine absence. No nocturnal surveys were performed at Mtapwa, the sixth study site. The recordings have been deposited at the British Library of Wildlife Sounds in London.

Call

The call in question is a low-pitched, slow 'wubbering' note—*wb-a-wb-a-wb-a-wb-a* with the "*a*" comparatively weak, of 3–4 s duration, sometimes longer. Bursts were repeated at intervals of up to a few minutes for long periods. It was reminiscent to at least one observer of the drumming sound produced by displaying Eurasian Snipe *Gallinago gallinago*. It is similar in quality to the call of Fraser's Eagle Owl given on Chappuis (1978) but distinct in pattern. It is deep, far-carrying and very difficult to locate. It was only ever heard after dark, between 20:00 and 04:30, never at dusk or dawn. There must remain a small degree of doubt that the call is of this species until a calling bird is seen and tape-recorded simultaneously.

Biometrics

Of the four individuals from London Zoo mentioned by Olney (1984), two were still alive in 1992. Both were males. Several attempts were made to induce them to call by playing a recording of Fraser's Eagle Owl, but without success. Their keepers had not heard them call for many years (P. J. Olney *in litt.* 1992). In 1992, both birds were measured and photographed, and the results are given below. Both birds have now died and have been sent to the British Museum (Natural History) at Tring, where they are the only specimens of *B. vosseleri*. There are very few published biometrics from the Usambara population.

There is an unlabelled skin of a young Eagle Owl *Bubo* sp. at the Zoo which the keeper of the collection thought might have been *B. vosseleri*. This is unlikely as no young *vosseleri* have died at the Zoo (Olney 1984).

Table 2. *Biometrics of Usambara Eagle Owls* Bubo vosseleri

Individual	weight (g)	wing (mm)	tail (mm)	bill to cere (mm)	bill to skull (mm)	tarsus (mm)	wing moult
Kambai Forest Reserve	770	331	176	29	–	51	no
London Zoo male B804	850	>318	177	30	48	–	yes
London Zoo male B805	875	365	189	32	45	*c.* 60	no

Conservation status

The record from Mt Mtai was the first in the East Usamabaras away from the main plateau around Amani and confirmed that the bird was likely to be found at suitable altitudes on all the outlying mountains—Mt Mtai, Mt Mhinduro, Mt Mlinga and Mt Nilo.

These are the first ever records from the lowlands (at least seven birds are thought to have been located in 1992) and suggest that the species may be commoner there than in submontane forest, where, despite the far better coverage, few records are known (see above). Moreau (1964) speculated that this might be so, since Fraser's Eagle Owl is a lowland forest species. It is not yet known whether the species occurs in the lowland forests on steeper slopes at 400–800 m, or in the drier forest types in the lowlands (e.g., at Kambai (Semdoe) Public Land), and it has not been shown to breed in the lowlands.

It still merits its threatened status, given its (presumably) low population density and the destructive pressure forest is under at all altitudes in the Usambaras. However, it is clearly in less danger than was once thought. It is thought to tolerate some forms of forest degradation, as most of the breeding records are of chicks found in cardamom plantations, under a forest canopy, having fallen from their nest-holes (Olney 1984).

East Coast Akalat *Sheppardia gunningi*

Recent records

East Coast Akalats were found at all of the six study sites, in five separate blocks of lowland forest. Forty-four were mist-netted (out of 512 individual birds netted in total), making it the second commonest species caught. They were not previously known from the Usambaras, though there are populations in nearby areas of Kenya and Tanzania (Collar & Stuart 1985).

The forests varied fairly widely in structure, wetness and degree of human disturbance. Akalats were found in the full range of habitats—in tall, little disturbed forest (e.g., parts of Marimba, Kwamgumi and Segoma Forest Reserves) in logged forest with heavily disturbed understorey and many rocky outcrops (Kambai Forest Reserve) and in heavily disturbed evergreen thicket (e.g., Mtapwa Public Land and

parts of Kambai (Semdoe) Public Land). They seemed to occur at comparatively low densities in Kambai Forest Reserve and Kambai (Semdoe) Public Land.

They were mostly seen on the ground or up to 1 m up in low bushes, and only once 3 m off the ground in a thicket. They occurred in the same areas of forest, and at a similar level in the vegetation as Swynnerton's Forest Robin *Swynnertonia swynnertoni* (fairly common at the study sites (Cambridge Tanzania Rainforest Project in prep.)), White-starred Forest Robin *Pogonocichla stellata*, Red-capped Robin Chat *Cossypha natalensis*, White-chested Alethe *Alethe fuelleborni* and Red-tailed Ant Thrush *Neocossyphus rufus*. Three individuals were seen in Mtapwa in a single day, all associated with swarms of army ants, but none were seen in parties of ant-following birds in the Sigi-Muse valley.

They have not been found at some other lowland sites in the Usambaras—namely Amani-East and Amani-Sigi Forest Reserves (Sclater & Moreau 1932–33, Moreau 1935, Moreau & Moreau 1937, Stuart 1983), the east slope of Mt Mtai (Evans & Anderson 1992) or Kwenhondwe Forest Reserve in the West Usamabaras (Stuart 1983). The Akalats appear to avoid the steep slopes of the escarpment between 400 and 800 m where many of the studies listed above took place. The 1992 fieldwork was the first throrough survey with mist-nets of the gently-sloping forests below 400 m which may prove to be their preferred habitat.

There is a recent record from Zanzibar (Beentje 1991) which does not appear to have been widely publicized.

Plumage and biometrics

The birds appear to belong to the East African coastal race *sokokensis* (see description in Keith *et al.* 1992). Biometrics of the captured birds are summarized in Table 3. The distribution of winglengths was bimodal, presumably representing the smaller females and larger males (as in other poulations, e.g., Maclean 1988). On this basis, the biometrics in the table are given separately for large and small birds. Range and arithmetic mean are given. Only two of the 42 adults examined appeared to have active brood patches, both birds falling in the smaller adult size class. Two well-grown immatures were caught. One adult had just completed its primary moult on 21 July.

Table 3. *Biometrics (mm) of East Coast Akalats from the East Usambaras. For samples over 2, range and arithmetic mean (in bold) are given*

	wing	bill	tarsus	tail
Large (males?)	70–**72.3**–77	14.5–**15**–15.5	21.5–**21.9**–23.5	50–**55**.9–60
n	25	8	8	25
Small (females?)	63–**66.1**–68	14–**14.5**–15.5	20.5–**21.1**–22	47–**50**.6–55
n	17	10	10	17
Immatures	67–71	14.5	21.5	48–53
n	2	1	1	2

Conservation status

The population in the Usambaras in presumably quite large, though it has yet to be shown that the species breeds there. It is not in danger at the site in the short term, being protected by the extent of remaining forest, but habitat destruction is a threat in the longer term. It seems to be genuinely absent from many forests within its wide range, and those sites where it does occur are under severe human pressure (Collar & Stuart 1985). It was listed as globally threatened, status Rare, by Collar & Stuart (1985), and despite the discovery of several new populations, the vulnerability of its habitat suggests that it is still threatened. Considering the small size of the other main localities (Rondo 18 km^2 and Litipo, 10 km^2 (Bagger *et al.* 1990), Pugu 10 km^2 (Holsten *et al.* 1991) and Kazimzumbwe *c.* 20 km^2 (Huxham *et al.* undated)) the Usambaras probably hold the largest and most secure population in Tanzania.

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