

How Many Seychelles Scops Owls *Otus insularis* are there?

Jeff Watson

ABSTRACT

The endemic Seychelles Scops Owl *Otus insularis* was reported extinct in the 1950s, and rarely seen by ornithologists for over a decade following its 'rediscovery' around 1960. It has been definitely recorded only from the island of Mahé although suitable habitat exists on several other Seychelles islands. A tape recording of the Scops Owl call was obtained in 1975 and was used to locate pairs of owls by eliciting response to playback of recordings. Over a two year period, mated pairs were consistently located by this method in 12 places along a series of tracks and roads in the mountains of Mahé. Typical Scops Owl habitat was dense secondary forest growing in deep ravines and river valleys where there were accumulations of large boulders. Based on the average distance between these pairs, and extrapolating from the known extent of potentially suitable habitat, the population on Mahé was estimated to be a minimum of 80-90 pairs. During a follow-up study in October 1993, eight of the original study sites were checked and in each locality a pair of owls was detected close to sites that were occupied in 1975/76.

INTRODUCTION

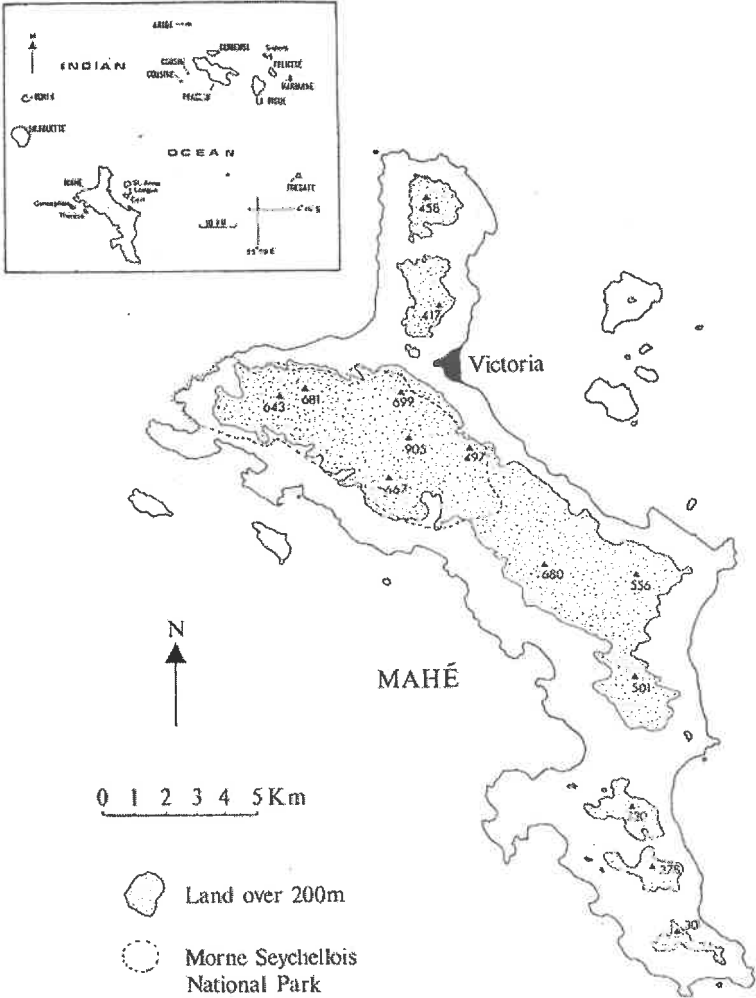
Almost nothing was written about the endemic Seychelles Scops Owl between its discovery and initial description (Tristram 1880) and its rediscovery by Philippe Lalanne in 1960 (Loustau-Lalanne 1961). At least one author believed the bird extinct (Greenway 1958). The key to understanding this retiring, nocturnal species is its vocalisation and, since good quality tape recordings were obtained in 1975, substantially more is now known about the bird's distribution and habits. This paper summarises observations made during a range of visits to Seychelles over a 20-year period from 1974. The Scops Owl has only ever been recorded from the island of Mahé, the largest of the granitic Seychelles (Fig. 1).

VOCALISATION

The typical call of the Seychelles Scops Owl is a deep, monotonous and rhythmic grunting given at the rate of around one note per second. Birds tend to call in bursts ranging from 15-20

seconds to several minutes or more. Scops Owls very rarely call during daylight hours and the most reliable time to hear calling is during the first hour or two after sunset. Simultaneous calling by both members of a mated pair is quite common, and since the rate of calling by different individuals is generally slightly different, there is typically an asynchronous quality to this dueting. In prolonged bouts of dueting the call of one or both birds can change quite markedly, from the usual grunting note to a sharper, quacking note. Sometimes this is accompanied by a short snapping noise that sounds like bill-snapping. A duet can reach a crescendo when the pair copulate, and the note changes completely to a very distinctive short series of whiffing, high-pitched whistles. A quite different call is given by birds that were presumed to be dependent young. This is a short and strongly directional call, best represented as 'whsst', and given as single notes at intervals of 5-10 seconds. This presumably serves a locational function for the parents when feeding fledged young.

Figure 1. Map of Mahé showing land above 200 m and inset map showing the granitic Seychelles.



BREEDING BIOLOGY

The Scops Owl remains the one Seychelles endemic for which the nest has yet to be found (Collar & Stuart 1985). Some information is, however, available on timing of breeding. Over the years I have recorded recently fledged young on five occasions. One bird was killed by a dog and given to me freshly dead in the month of June. I have also heard a young bird on site (evidenced by the 'whsst' call referred to above) on four separate occasions, once in June, once in October and twice in November. These minimal data suggest that either breeding occurs through the year or, perhaps more likely, that there is a twice-yearly breeding season, either side of the heavy rains which occur from December to March. In each case only a single young bird was detected and this would suggest the clutch size is small, and possibly only a single egg (Watson 1979).

HABITAT PREFERENCE

Scops Owls are nowadays confined to upland areas on Mahé, typically from around 250 m up to 600 m. It is not known whether the bird was more widespread at lower altitudes before people arrived in Seychelles some 200 years ago, and before much of the original forest was cleared. Today the preferred habitat in the mountains is mature forest in river valleys. Mostly this is now secondary forest with dense stands of the exotic acacia-like *Albizia falcata* and the introduced shrub *Cinnamom zeylanicum*. The river valleys and ravines in these steep mountain areas typically hold large accumulations of massive granite boulders and such boulder fields are a common feature of Scops Owl locations on Mahé. Whether there is a functional connection between Scops Owls and boulders is not clear, but one possibility is that the owls nest deep within these rock piles, and this could be one reason why no nest has yet been found. Scops Owls seem to avoid the drier ridges between the valleys where the vegetation tends to be sparser and shorter and where there are often extensive areas of bare rock known locally as 'glacis'.

DISTRIBUTION

Because of the accessibility provided by the Sans Souci road between Victoria and Port Glaud, the great majority of Scops Owl records have come from the area between Mission and the Tea Factory. Over the period 1974-93, however, there have been a range of sightings from Jasmin and Mare aux Cochons in the north, to Trois Frères and Cascade in the east and Castor in the south. The concentration of records from around Mission, as well as the range of outliers, is shown in Figure 2. Overall, around 50 km² of Mahé lies above the 250 m contour between Jasmin in the north-west and Castor in the south. Most of this provides potentially suitable habitat for Scops Owls.

OTHER ISLANDS

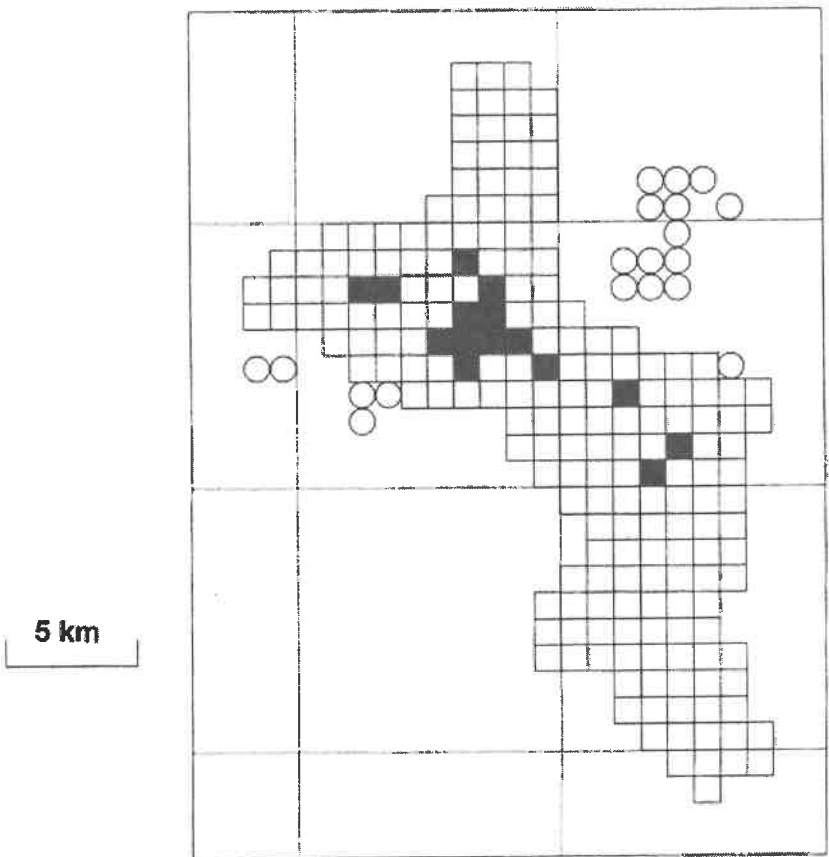
Judging by the known preferred habitat on Mahé, the other island that could potentially hold Scops Owls is Silhouette, although some of the higher areas on Praslin could also be suitable. Collar & Stuart (1985) review the history of possible records from Praslin, but as yet there has been no definite sighting from that island. Neither has it proved possible to locate birds there using playback recordings. In 1975 and again in 1993 I spent several evenings in the mountains of Silhouette searching for Scops Owls with aid of tape recordings. No birds were found on these occasions and there have been no confirmed records from Silhouette despite the abundance of apparently suitable habitat there. Perhaps the bird never chanced to colonise Silhouette, or perhaps it became extinct there in the early period of intensive forest clearance in Seychelles. In terms of conservation management, there is a strong argument to consider the translocation of Scops Owls to Silhouette as an insurance against threats to the single small population on Mahé.

POPULATION ESTIMATE

During 1975-76 Scops Owls were found at 12 localities near tracks and roads in the mountains

immediately south of Morne Seychellois. Eight of these localities were systematically checked with the aid of tape recordings during a brief visit in October 1993. The average nearest-neighbour-distance between these eight sites was 850 m. Sites were regularly spaced and, on that basis, an estimate of the spacial needs of a pair can be made by assuming a circular 'territory' with a radius of $\frac{1}{2}$ the average nearest-neighbour-distance. This gives an estimate of 'territory' size for each pair of Scops Owls of 57 ha. On the assumption that around 50 km² of suitable habitat exists within the mountains of Mahé (see above), this gives an estimate of 80-90 pairs of Scops Owls. I believe this is probably a minimum figure as there have been occasional records of Scops Owls below 250 m, and there is some suitable habitat south of Castor and some pairs may occur there.

Figure 2. Map of Mahé based on 1 km grid squares. Filled squares indicate localities where Seychelles scops owls were recorded during the period 1974-93.



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Jeff Watson
Scottish Natural Heritage
9 Culduthel Road
Inverness
IV2 4AG
Scotland

