

A review of the residential status of the endemic Cyprus Scops Owl *Otus cyprius*

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The endemic Cyprus Scops Owl *Otus cyprius* (hereafter *cyprius*) (Plate 1) was initially given specific status (von Madarász 1901) but was later considered to be a subspecies of the Eurasian Scops Owl *Otus scops* (hereafter *scops*) (eg Vaurie 1965, CS Roselaar in Cramp 1985). More recently it was proposed to treat *cyprius* as a species-level taxon because it differs constantly in plumage from *scops* and because its distinct song might serve as an isolating mechanism from the latter; the mtDNA of *cyprius* differs slightly from that of *scops* (Flint *et al* 2015). This treatment of *cyprius* was followed by the IOC (2016), who also gave a pragmatic reason for elevating *cyprius*: that the combination of differences [from *scops*] is comparable to the differences between other recognised species of *Otus*. Formerly, *cyprius* was considered to differ from *scops* in being wholly resident, rather than migratory or partly so (Cramp 1985) but recently its wholly residential status has been questioned (Flint *et al* 2015). Here we examine in greater detail the historical and recent evidence for its residence (*ie* overwintering on Cyprus) and for its migration from the island, including unpublished November–January records and a winter response-to-playback survey.

The supposed resident status of *cyprius* was based on winter-collected specimens (eg Bucknill 1910, Bannerman & Bannerman 1958, 1971) and on occasional November–January song records (Flint & Stewart 1983, 1992). Of 32 museum specimens (labelled *cyprius* and showing characters of that taxon) examined by GM Kirwan (pers comm) for Flint *et al* (2015), five were collected in January—in 1902, 1960 (2) and 1962 (2). Of the five January specimens, two were male and two female, showing that both sexes may overwinter. Six specimens were also collected in mid–late February (three male, three female) but we can not exclude the possibility that some of these may have been immigrants (see below).

Records of live birds since Flint & Stewart (1992) up to December 2016 are included in Figure 1. Records were collated by CR from Cyprus Ornithological Society/BirdLife Cyprus Reports 1993–2015, and associated monthly newsletters to December 2016. Unpublished winter records from CR (Jan–Feb 2016, n=3), PF (Nov–Jan 2002–2004, n=20) and Serge Fetter (Jan 2016, n=1) are also included. As *cyprius* is strictly nocturnal, nearly all records (>95%) are of birds heard singing rather than seen, thus the histogram largely represents when birds are singing and when they are not. Singing usually commences at low elevations in early February (occasionally in mid or late January) and it is heard widely across the island thereafter, increasing to a peak in early April. This and the subsequent decline, followed by a second smaller peak in June, follows the vocal pattern of *scops* described by Cramp (1985). Song is heard much less frequently after July, and rarely from November to early or mid January (Figure 1), indicating that birds are silent or absent then. Occasional counts in winter of two or three singing birds at the same locations indicate locally high densities at this season, eg two at Armou 25 December 1997 and 4 January 1998 (Sadler 1998, 1999), three heard from one point at known breeding territories in woodland near Kyrenia 21 December 1999 and 1 January 2000, and two there 13 Dec 2001 and 19, 25 and 26 January 2002 (PF), three at Episkopi garrison 20 January–months end 2003 (Gordon *et al* 2004) and two at known breeding territories at Tala 31 December 2005 (Richardson *et al* 2006).

In some recent Januarys there have been few or no records of singing birds, *ie* excluding playback responses only two records 2007–2015 (BirdLife Cyprus Reports 2007 & 2013). However, *cyprius* is usually silent in winter so without regular night-time listening surveys to detect occasional singers this recent scarcity of January records is of little



Plate 1. Cyprus Scops Owl *Otus cyprius* at Kensington cliffs, Episkopi, on the south coast of Cyprus, 28 January 2017.
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significance, especially as playback results (below) show that silent and undetected birds may be present.

On Corsica and in Italy, response to playback in winter of *scops* song has revealed the presence of otherwise silent and undetected *scops*, though in Italy passive listening for spontaneous song was far more effective at detecting birds (Thibault & Bonaccorsi 1999, Mori *et al* 2014). On Cyprus, *cyprius* song was played (by CR) at known breeding territories on a total of eight evenings in the contiguous villages of Armou and Marathounta (320 m

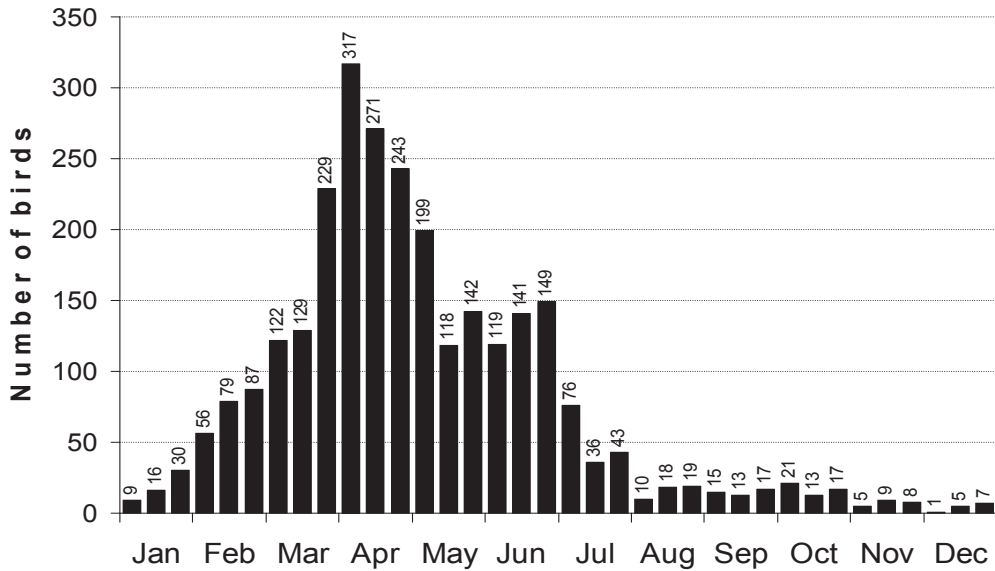


Figure 1. Cyprus Scops Owl *Otus cypricus* records, Cyprus, 1993–2016. These records are nearly all of singing Cyprus Scops Owls *Otus cypricus* but may include a few migrant Eurasian Scops Owls *Otus scops* at or near coastal sites during spring and autumn. The results of an extensive summer 2013 survey by J Honold are not included as they produce an unrepresentative peak then.

asl), Paphos District, in January 2015, 2016 and 2017, and in early February 2017. Song was played on a Samsung smartphone for two minutes duration at four to seven sites each evening after sunset, typically 18.00–19.00 h. On 17 January 2015 playback produced a brief (four song phrases) and rather faint response from one previously silent and undetected bird; the nature of the response suggesting that the bird may have been reluctant to sing in winter. In 2016 there was no response on 25 January but on 27 January playback elicited song from four previously undetected birds. While the earliest migrants might occur in late January or early February (see below), the presence of four birds at the same location strongly suggests that they were overwintering residents; migrants might also be expected to sing after arrival, as do *scops* (Cramp 1985). In 2017, there was no response to playback on 17, 20, 25 and 30 January; one bird responded on 2 February. The end of that January was exceptionally cold with both maximum and minimum air temperatures at Paphos airport 27–31 January $>3^{\circ}\text{C}$ below the 1999–2005 means combined with wind and rain, air frost, and snow at Armou and Marathounta; this cold spell continued into February (Cyprus Met Office 2017, CR). The poor response may thus have been weather related, with birds perhaps reluctant to sing or had moved to lower ground.

There are no December–January records from the higher mountains. In 1975, Mason (1980) heard none on Troodos/mount Olympus (1700–1950 m asl) after July and saw none after September, suggesting that they either move to lower altitudes or vacate the island entirely. At least two singing by the Troodos visitor centre (1700 m asl) 21 February 2013, with snow still on the ground and very low night-time temperatures, were unexpected and had either returned early or had overwintered, perhaps on lower ground (J Honold pers comm). The increase in records in Cyprus during late January–early April (Figure 1) will be at least partly caused by previously silent overwintering birds singing with increasing frequency as they establish or re-establish territories, form pair bonds and start

to breed. However, it may also be evidence of an influx of returning migrants, similar to Israel where *scops* is wholly migratory and local breeders return February–March with the first migrants arriving late January or early February (Shirihai 1996).

The main evidence for *cyprius* migration is the record of 14 birds trapped on limesticks near the southeast coast at Paralimni 12 March–3 April 1968, which were identified as returning migrant *cyprius* (Horner & Hubbard 1982). These *cyprius* occurred near the beginning of the ten-week survey period so their migration may have been in progress earlier, with these captures representing the end of the migration. If so, this timing would correspond with the end of the arrival of local breeding *scops* into Israel (above). This relatively high *cyprius* total in a regular bird-liming area where the habitat is also unsuitable and *cyprius* is not known to breed (CR, J Honold pers comm), plus the concentrated period of occurrence, especially compared to just three Little Owls *Athene noctua* (a common resident) trapped there over a longer period, is strongly suggestive of a pulse of returning migrants. Also, the main arrival of the continental and more northerly breeding migrant *scops* in that study occurred in mid April, with others passing till early May, later than the *cyprius* occurrence period (Horner & Hubbard 1982). As on Cyprus during the spring migration, more southerly breeding taxa arrive earlier than more northerly breeding taxa (Flint & Stewart 1992), the earlier occurrence of *cyprius* in the Horner & Hubbard study compared with that of *scops* also suggests that they were arriving migrants which had wintered away from the island. Horner & Hubbard (1982) identified the collected birds by comparison with museum specimens but their methods are undocumented, so we do not know which museum material was used for comparison and some *cyprius* labelled museum specimens are misidentified (GM Kirwan in Flint *et al* 2015). Horner & Hubbard's text does imply they were aware that *cyprius* is dark and not reddish so on balance it seems likely that their identifications were correct or mostly so. In the 50 years since the Horner & Hubbard survey, winter temperatures on Cyprus have increased and rainfall decreased (eg Price *et al* 1999, Meteorological Service 2017); these less cold and less wet winters may have caused a reduction in the numbers of *cyprius* migrating since 1968.

The length and shape of the wing of *cyprius* shows no significant differences from *O.s.scops* and *O.s.cycladum* populations from southeastern Europe and the east Mediterranean region (Flint *et al* 2015). These populations vary from apparently mainly migratory to apparently mainly resident (eg Shirihai 1996, Eken 1997, Handrinos & Akriotis 1997), so the similar wing biometrics of *cyprius* do not tell us a great deal regarding its migration strategy, except to suggest that it is probably not entirely sedentary. Two individuals with typical *cyprius* plumage have been collected in Israel 19 March 1961 and before March 2013 (Flint *et al* 2015); mtDNA sequencing of these specimens might show whether or not they are *cyprius*. Otherwise there are no records from Israel (Shirihai 1996, Yoav Perlman & Hadoram Shirihai pers comm). European breeding *scops* are trans-Saharan migrants, regularly overflying the Sahara and (especially in autumn) apparently the Mediterranean also in unbroken flight and their general direction of migration appears to be west of south; east Russian and Asian *scops* also migrate west of south (Cramp 1985). If *cyprius* is similar in these respects then it would be unlikely to occur in any numbers in Israel, especially in autumn and winter. During his museum specimen analysis for Flint *et al* (2015) GM Kirwan (pers comm) searched for *cyprius* specimens from Africa without any success, though this is of course not proof that they do not occur there. The possibility also exists that *cyprius* may be a shorter-distance migrant than *scops*.

To summarise, the main evidence for *cyprius* migration is Horner & Hubbard (1982) although the numbers of *cyprius* migrating may have reduced since that survey as winters have become more benign. The wing biometrics of *cyprius* suggest that it is not entirely sedentary. The relative proportions of the population which remain or migrate, and their

ages/sexes, are unknown although occasional locally high winter densities and response to playback suggests that many and perhaps most territory-holding adults remain. The strong territoriality of *cyprius*, its strong response to song playback and its size (Flint *et al* 2015) make it an ideal subject for a study using tracking devices, which should reveal the proportions, including ages/sexes, of the population which remain or depart.

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