

Short communication

Vocal gatherings of Blackcaps *Sylvia atricapilla* in olive trees on a Greek island

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Abstract - Migratory Blackcaps in Amorgos collect to feed in unseasonably fruiting olives in March and produce a chorus of subsong. The possible function of this behaviour is briefly discussed.

Key words: Subsong, pre-migratory, predator-avoidance, feeding.

Riassunto - Assembramenti vocali di Capinere negli uliveti in un'isola greca.

Sull'isola greca di Amorgos le Capinere in migrazione si radunano in marzo sugli olivi che mantengono i frutti fuori stagione e producono un coro di sottocanti (subsong). La possibile funzione di questo comportamento viene discussa.

Parole chiave: Sottocanto, raggruppamenti pre-migratori, foraggiamento, evitamento dei predatori.

Visiting Amorgos, an island in the Cyclades, in early-mid March 2015, we were struck by encountering choruses of birds at intervals in olive *Olea europaea* groves. So many birds were evidently participating simultaneously that it was initially difficult to determine what species were involved, and the birds tended to be very shy at showing themselves in the foliage. Patient observation revealed that the participants were always Blackcaps *Sylvia atricapilla*, though wintering Songthrushes *Turdus philomelos*, and Blackbirds *T. merula* were often also present silently on the ground beneath the trees; the locally ubiquitous Sardinian Warbler *S. melanocephala* was also sometimes present, singly or in pairs. The one factor uniting these groups was that the individual olive trees where the birds assembled were unseasonably in fruit. On Amorgos the olive harvest, reflecting the fruiting of most trees, is in November (Connell, 1980; Connell, 2012 pers. comm.), but a few trees bear ripe fruit in March. In the

Aegiale area where we made the observations, such trees appear to be confined to old terraces around 100-200 m asl, often mixed with oaks *Quercus coccifera* and buckthorn *Rhamnus alaternus*, whereas we found only one tree with fruit amongst hundreds examined on the valley floor at or near sea level, where Blackcaps were few and invariably single (although sometimes subsinging individually). Every assembly of Blackcaps turned out to be associated with fruiting olives, there being anything up to ten or a dozen birds (possibly more) in favoured trees, all subsinging together. Amorgian olives are quite small, about 12-16 mm by 8-11 mm, and Blackcaps were seen to swallow them whole. Although some Blackcaps winter on the island (pers. obs.), the larger numbers present in mid-March suggests migrants, and olives clearly provide a rich source of lipids for the birds' fat reserves. In other seasons on the island, autumn migrant and wintering Blackcaps avoid olive groves, appearing to prefer mixed orchards and maquis with earlier-fruiting trees such as *Rhamnus alaternus* and *Pistacia terebinthus* (pers. obs., September-November, various years); lentisc *P. lentiscus*, a winter staple in Spain (Mason, 1995), is abundant in parts of Amorgos, but mostly goat-browsed into low bushes that are unattractive to Blackcaps.

While Blackcaps wintering and on spring passage in southern Europe are well-known to eat olives (e.g. Mason, 1995; Rey 2011 and references therein), the numerous studies in Spain and Italy on diet and nutrition of Blackcaps and other avian frugivores never mention feeding-related behaviour (apart from feeding methods), and there appears to be no previous account of group subsinging and very few of large assemblies. Snow & Snow (1988) reported 'gregarious feeding' by Blackcaps in autumn and winter in Britain, but that included mixed groups with other species, and the largest number of Blackcaps together was only 6, in autumn only; they used the *chack* call as communication rather than subsong. The loose groups of 3-4 birds we have seen in UK, on elder berries *Sambucus nigra* in late summer or ivy *Hedera helix* in April, have been much less concentrated than in Greece and appeared fortuitous rather than intentional, as already noted by Shirihai *et al.* (2001). However Prinzing (1988) reported up to 20-30 collecting with Lesser Whitethroats *Sylvia curruca* to feed on *Eucalyptus* nectar in Israel in 1985. The closest to our observations is the report from C. J. Hazevoet (via

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EKD[unn] in Cramp & Brooks, 1992) of groups of around 30 birds, mostly males, “feeding amicably together in fig *Ficus* trees, accompanied by calls and subdued song” during the local breeding season in September in the Cape Verde islands. Ingram (1926) noted on the French Riviera that “in the colder months the Blackcap is often found in small assemblies”, adding that “on suitable days it may be heard singing in a low murmurous voice” (*i.e.* subsong), without, however, indicating that this took place in the ‘small assemblies’. Baker (1997), echoed by Shirihai *et al.* (2001), mentioned only that they can occur in ‘loose parties’ in winter and on migration. Nicholson (1927) noted for Britain “the whispering soliloquy ... heard from Blackcaps and other warblers sitting hidden in dense bushes most often in the autumn” (*i.e.*, pre-migratory in the other direction), but did not suggest the singers were aggregated. In his short monograph Mason (1995) has a chapter on song in which there is only passing mention of subsong; Shirihai *et al.* (2001) mentioned subsong but without any context, Garcia (1989) did not mention it at all. Our Greek birds were rarely seen in the act of singing, so we do not know if both sexes participated, though both males and females were present in the gatherings. Mason (1995) noted that females have been recorded subsinging, though Shirihai *et al.* reported female singing only in the breeding season.

While it is understandable that passage Blackcaps should assemble where rich fruit is available, it is less clear what the function might be of simultaneous subsinging. Wintering Blackcaps in UK regularly subsing in the weeks before departure (*pers. obs.*), and solitary birds in Amorgos in March also do so, so it is possible that birds that would be subsinging anyway, simply carry on doing so when in a group. However, depending on the terrain, the group subsong can be audible over a hundred metres or more, and must draw the attention of additional passing Blackcaps to the food source, not to mention also predators - wintering and passage Sparrowhawks *Accipiter nisus* are common in Amorgos (*pers. obs.*). Hence both from food competition and predator avoidance, the group singing could appear counterproductive, which suggests it may have some countervailing advantage. Given that fruiting trees are scarce in March, increased competition might be offset by the advantage gained by individuals in locating food trees, the group behaviour facilitating overall individual survival. In general also the fruiting trees were extremely productive, so the olives may have been superabundant, albeit only on isolated trees. The extreme reluctance of the subsinging birds to show themselves suggests that they were both advertising their presence and predator-avoiding at the same time. As with Hazevoet’s fig-feeders, there was no sign of aggression amongst the Blackcaps; there was no attempt to defend trees against conspecifics in the manner described for wintering birds on mistletoe *Viscum album* in Anjou (France), date palms *Phoenix* spp. in Majorca (Snow & Snow, 1988) or aloes *Aloe arborescens* in Gibraltar (Garcia, 1989).

Group subsinging appears to have had little attention in the literature, unlike pre-roosting group chatter of *e.g.* starlings/mynahs Sturnidae, sparrows *Passer* spp. or Rooks *Corvus frugilegus*. Pre-migratory group subsinging,

apparently unconnected to feeding sites, is frequent in Redwings *Turdus iliacus* in UK in spring (*pers. obs.*), and while mentioned by Witherby *et al.* (1938), sound recorder Ludwig Koch (1954), Cramp (1988) and commented on in many British internet posts, it seems to have escaped any discussion of its function.

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Note added in proof

On a return visit to Amorgos in mid-March 2016, we noted that there were many more olive trees carrying fruit than in 2015, though still only at around 100-200m asl. Instead of single trees full of fruit, there were groups, each with fruit only on a few branches. Fruiting trees were in the same locations as before, with additional ones scattered elsewhere. The Blackcaps, although distinctly concentrated, were more spread than in 2015, not only in the fruiting trees but some also sub-singing in almond *Prunus dulcis*, oak *Quercus coccinea* and buckthorn *Rhamnus alaternus* adjacent to the olives, the latter two having much denser foliage than olives. Trees in the same locations as 2015 were occupied by sub-singing birds, but fruit-bearing trees in new locations often had no attendant birds, suggesting a traditional element to the gatherings. As in 2015 the singers were extremely cryptic, hiding in the foliage and usually glimpsed only when moving between trees; chorus sub-singing continued throughout the day. As before, away from fruiting olives, the Blackcaps were few and widely scattered.