Short Communication

Early breeding of Great Spotted Cuckoo *Clamator glandarius* in Sardinia, Italy

Marcello Grussu

Abstract - On 5 May 2024, two juvenile Great Spotted Cuckoos were observed between Ottana and Bolotana (north-central Sardinia). The area of the sighting is located at around 200 m above sea level; the habitat is characterised by open, flat agricultural land with various agricultural and pastoral farms and wooded pastures (dehesas), with low Mediterranean scrub and occasional watercourses. In the month previous to this record, several adults of the species had been observed repeatedly in the same area. Based on the apparent age of the juveniles, evaluated at approximately 25 days or more, it can be deduced that they were born from eggs laid in the last ten days of March. This is earlier than what has been observed until now in Italy, with the earliest egg-laying occurring in April, with a peak between the end of April and mid-May. The absence of Eurasian Magpie in the area suggests that the birds were hatched in nests belonging to Hooded Crow or Eurasian Jay.

Keywords: breeding season, *Clamator glandarius,* Great Spotted Cuckoos, Italy, Sardinia.

Riassunto - Nidificazione precoce del cuculo dal ciuffo in Sardegna.

Il 5 maggio 2024 tra Ottana e Bolotana (Sardegna centro settentrionale) ho osservato due giovani di cuculo dal ciuffo. Il sito di avvistamento si trova intorno ai 200 m slm; l'habitat è caratterizzato da un paesaggio agrario aperto pianeggiante con varie aziende agro-pastorali e pascoli arborati (*dehesas*) con macchia Mediterranea bassa e rari corsi d'acqua. Nel mese precedente a questo avvistamento, nella stessa area erano stati osservati ripetutamente alcuni individui adulti della specie. In base all'età apparente dei due giovani, valutata in circa 25 giorni almeno, si può dedurre che siano nati da uova deposte nell'ultima decade del mese di marzo. Si tratta di un periodo in anticipo con quanto rilevato sinora in Italia, dove le deposizioni più precoci si sono verificate nel mese di aprile, con un'intensità max tra la fine di aprile e la metà di maggio. L'assenza nell'area della gazza, fa sospettare che i giovani siano nati in nidi di cornacchia grigia o di ghiandaia.

Parole chiave: cuculo dal ciuffo, *Clamator glandarius*, Italia, riproduzione precoce, Sardegna.

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In the Mediterranean, Great Spotted Cuckoo *Clamator glandarius* is essentially a migratory and summer breeding species, with a range in expansion extending across southern Europe, Turkey and the Middle East; while in North Africa it breeds in Egypt and Morocco (Payne *et al*., 2020; Soler & Herrando, 2020). In Italy, it is a rare migrant breeder, with a population of 15-30 pairs distributed discontinuously and localised in the coastal areas of the Peninsula, from Campania to Liguria, Puglia, the northern Adriatic, Sicily and Sardinia; with a wider and more continuous range in Tuscany and scattered in some inland areas (Brichetti & Fracasso, 2020; Meschini, 2022). In Sardinia, in particular, it is a regular migratory species and a rare breeding immigrant (first record 1964). On the island, reproduction probably occurs regularly, with a population of a single/ a few pairs (Grussu & Gruppo Ornitologico Sardo, 2017; Grussu, 2022).

On 5 May 2024, while monitoring steppe species in the Tirso Valley (central-western Sardinia, Nuoro province), I have observed two juvenile Great Spotted Cuckoos in the "ZPS ITB023051 Altipiano di Abbasanta" between Ottana and Bolotana. The two birds were very vociferous, flying together between trees in the area, also for some distance. The area of the sighting is located at around 200 m above sea level; the habitat is characterised by open, flat agricultural landscape with various agro-pastoral farms and wooded pastures (*dehesas*) with *Quercus suber*, *Quercus pubescens*, *Pyrus amygdaliformis*. Low scrub occurs with *Olea europea* ssp. *oleaster* and *Pistacia lentiscus.* Along the occasional watercourses, gallery woodlands and southern shelterbelts are dominated by *Nerium oleander* and *Vitex agnus-castus* together with significant populations of *Tamarix* sp. (Fig. 1). In the month prior to this observation, several adult individuals of the species had been repeatedly recorded in the same area (Jacopo Ferrario, personal communication).

Breeding period

With Great Spotted Cuckoo, eggs hatch 12-14 days after laying, and the juveniles fledge at 20-26 days (Cramp, 1985; Soler, 2016). However, in the first few days after fledging, the juveniles remain hidden among

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the leaves and branches adjacent to the parasitized nest; they then become more active, moving around with short flights between the nearest trees, and only in the following days are they able to make longer and more vigorous flights (Cramp, 1985; Zúñiga & Redondo, 1992). Considering that the two juveniles recorded in Sardinia moved easily among the trees in the area of the sighting, it can be estimated that they were about 25 days old and therefore hatched from eggs laid in the last ten days of March.

This is earlier than previously recorded in Italy, where the scarce information available indicates egg laying in April and June, with a peak between the end of April and mid-May (Brichetti & Fracasso, 2020).



Fig. 1 - Breeding habitat of the Great Spotted Cuckoo *Clamator glandarius* in 2024 in the "ZPS Altipiano di Abbasanta", mid-Sardinia (Italy). / Habitat di nidificazione del cuculo dal ciuffo *Clamator glandarius* nel 2024 nella ZPS Altopiano di Abbasanta, Sardegna centrale (Italia). (Photo: / Foto: above / sopre, Oscar Mura - www.wildlifefoto.it; below / sotto, Jacopo Ferrario).

In the Western Palearctic, Great Spotted Cuckoo mainly parasitizes species of the *Corvidae* family for reproduction (Cramp, 1985). In Africa, the species still prefers corvids, but also utilises the nests of Common Hoopoe *Upupa epops* and *Sturnidae* (Rowan, 1983; Payne *et al*., 2020). In Italy, there are known cases in Eurasian Magpie *Pica pica* nests and occasionally in Lesser Grey Shrike *Lanius minor* nests (one recorded episode in 1964 in Emilia-Romagna); while the use of nests of the Eurasian Jay *Garrulus glandarius* and, in Sardinia, of the Hooded Crow *Corvus cornix* is however, only hypothesised (Brichetti & Fracasso, 2020). Considering the observation period and the age of the juveniles, it can be ruled out that these are dispersed individuals. It should also be noted that in Sardinia spring migration of this species is already intense in March (Grussu, unpublished), and this may have favoured very early breeding.

The reproductive period is related to that of the parasitized species. In Spain, Valverde (1971) and Cramp (1985) indicate mid-April as the earliest period of egg laying, with a peak concentrated between the last ten days of April and the first ten days of May; although, more recently, Soler (2016) notes that egg laying already occurs in March. In Morocco, eggs are laid as early as late February-early March, with peak laying occurring in late March-early April (Bergier *et al*., 2022).

In the occurrence described in this note, it was not possible to identify the parasitized species, as during time spent at the site (approximately one hour), no interactions between the two juvenile Great Spotted Cuckoos and other species present in the area were noted. However, it can presumed that the species probably laid its eggs in the nests of Hooded Crows or Eurasian Jays, both of which (especially the former) are widespread in the area. However, I believe that the use of Eurasian Magpie nests may be excluded, as their range in Sardinia is limited to the extreme north-western part of Sardinia (Asinara Island and Stintino Peninsula), more than 70 km from the Altipiano di Abbasanta; furthermore, no individuals or nests of Eurasian magpies have ever been reported in the area where the two juvenile Great Spotted Cuckoos were found (Grussu & Gruppo Ornitologico Sardo, 2017; Grussu, unpublished).

The presence of the two juveniles together suggests a possible multi parasitic deposition by the same Great spotted Cuckoo female (repeated parasitism) or by different females (multiparasitism) in the same nest, as is frequently observed in some areas of Spain (Soler *et al*., 2023).

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