

## NOTES ON EURASIAN HOBBY *Falco subbuteo* BREEDING PAIRS IN THE ABRUZZO REGION

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**Riassunto – Note sul Lodolaio *Falco Subbuteo* nidificante in Abruzzo (Italia centrale).** Gli autori presentano e discutono brevemente il primo dato documentato e completo relativo alla riproduzione del Lodolaio per la Regione Abruzzo.

The Eurasian Hobby *Falco subbuteo* is the least known among European raptors (Sergio *et al.*, 2022), likely due to its biology (late breeding habits) and usually low density. This circumstance makes it difficult to assess its conservation status. The population trend in the Western Palearctic must be clarified since it is characterised by broad and unsynchronised fluctuations (Sergio *et al.*, 2001). Sudden decline (or even local extinction) of large and dense Hobby populations have been reported, for example, for Berlin (Fiuczynski, 2017) and Doñana (Sergio *et al.*, 2022). There are various hypotheses to explain the latter, such as food and nest availability, land-use changes, weather, and Goshawk *Accipiter gentilis* predation. Information is still needed on home range size, post-fledging dependence period, and factors limiting numbers (Sergio *et al.*, 2001).

In Italy, the species has been increasing in numbers and expanding in range since the mid-1990s, particularly in the North, but with local fluctuations (Brichetti & Fracasso, 2020). The estimation of 250-500 pairs (Meschini & Frugis, 1993; Sergio *et al.*, 2001) has doubled more recently, bringing this number to 500-1000 (Brichetti & Fracasso, 2020).

Regarding central Italy, the only study conducted regards a Monti della Tolfa (Lazio) sub-population, where meagre reproductive success was found over a four-year survey (Cauli *et al.*, 1987). In a previous census in the same area, Petretti & Petretti (1981) estimated 27 pairs in an 850 km<sup>2</sup> Cork Oak *Quercus suber* forest.

In the Abruzzo Region, knowledge about this species is fragmented. The recent Bird Atlas mentions sparse presence in Abruzzo (Bogliani, 2022). Adults and juveniles are regularly observed in some suitable areas from late Spring to late Summer. The species was deemed likely breeding (Di Carlo, 1972; Chiavetta, 1978) and, more recently, possibly irregularly breeding (Bernoni, 2015) in the Parco Nazionale d'Abruzzo whereabouts. As for the Maiella Massif, a couple of pairs were deemed as breeding in the Seventies of the last Century (Di Carlo & Heinze, 1978), and a pair was reported as breeding in an Oak wood in its Northern sector (Pellegrini, 1982) as well as in the Mount Genzana foothold (Pellegrini, *in verbis*). It is listed as breeding,

with no other information, in the Gran Sasso-Laga National Park Bird Atlas (2024). However, the present notes constitute the first documented and complete record in the literature of a successful brood for this region.

The authors decided in 2023 to start a preparatory survey for a more systematic study in the upcoming years, starting from incidental past contacts and visits in some suitable areas. Two areas were more carefully investigated by regularly visiting them at least once every fortnight between late April and September:

(A1) the final, mainly urban, 15 km stretch (25 Km<sup>2</sup>) of the river Pescara (A1), the longest river in Abruzzo, where a narrow strip of river woodland still survives;

(A2) a hilly area in the Maiella National Park (25 km<sup>2</sup>), which is mainly constituted of Downy Oak woods *Quercus pubescens* interspersed with grasslands and open farmland at an average altitude of 750 metres A.S.L.

Territorial pairs were searched by observing displaying individuals and listening to their territorial and courtship calls.

In both areas, only two breeding pairs were detected.

As for (A2), a territorial pair occupied a site close (about 600 m) to where one of the authors documented a reproductive attempt in 1989 (Table 1), which failed for unknown reasons. The pair was found out only in early August and followed every day from 7 to 12 August. They spent much of the time at this site – close to a crow's nest built on a downy oak tree – on an outlook, where one adult or both regularly perched. Calls were audible every time the male returned to the outlook regularly during early mornings and late afternoons. No feeding was observed. The last contact with the pair happened on 13 August 2023. Over the following days the area was monitored every day for a week with no results.

As for (A1), the pair successfully brooded three chicks (photo 1). Information is synthesised in Table 2.

The approximate hatching date was calculated by subtracting 32 days from the fledging date, while the laying date was calculated by subtracting 30 days from the hatching date.

Albeit minimal, such data confirm the known species' breeding biology concerning late laying date, circadian activity, aggressive behaviour, and post-fledging/pre-migratory activity. The A2 pair behaviour corresponds to what has been reported in the literature about some pairs without youths not disappearing but showing intensive pair bonds during August (Fiuczynski, 2017).

With all the caveats due to the preliminary and incomplete nature of the survey reported here, the Hobby's density for the two areas would be 1/25 Km<sup>2</sup>. Of course, this figure is biased because it is based on an extension of the samples that is too small. Nonetheless, it gives some hints about a possible low density, which resembles some estimates made in the past for Central Italy (Petretti & Petretti, 1985), well below the density recorded in Northern Italy poplar plantations (Bogliani *et al.*, 1994) and other well-suited habitats elsewhere.

As for the River Pescara valley, one of the limiting factors might be the scarcity

of open farmlands, which are replaced by factories and infrastructures bordering the remnants of the riverside wood in the study area. Several factors – such as the progressive relinquishment of crops and grazing areas with the consequent reduction of open land birds — could determine a low density in the agro-silvopastoral system of the Apennine thermophilous deciduous forests of *Quercetea pubescentis* and possibly, a low reproductive success.

It prompts us to further the effort by widening the two sample areas, adding new landscape types (low hill farmlands) and perfecting the survey methodology to start a pluriannual study regarding the distribution and home range size.

**Table 1.** Breeding cycle of a Eurasian Hobby pair in 1989 in the piedmont of the Western Maiella massif.

Nest	Nest site	Laying	Hatching	Fledging
Carrion Crow's nest on top of a Downy Oak 18-metres high.	By a brook, overlooking a patch of low vegetation and grassland, 660 mt. ASL	5-8 July 1989	5-7 August 1989	/ (on 1 September the nest was empty, and no individuals were around)

**Table 2.** Breeding cycle of a Eurasian Hobby pair in the River Pescara Valley in 2023.

Nest	Nest site	Laying	Hatching	Fledging	Last contact
Carrion Crow's nest on a European Black Poplar ( <i>Populus nigra</i> ) 25-metres high, at about 20 m from the ground.	The nest overlooks the river on one side. On the other side, there is open terrain (crops and meadows), 0 m A.S.L.	19 June 2023	15 July 2023	14 August 2023	16 September 2023 (one adult and three juveniles)
Other notes					
A territorial pair was first detected on 30 June 2023. The nest was discovered on 3 August.					
By monitoring the nest site between 3 August and 16 September (18 days and about 50 hours), the following observations were made: <ul style="list-style-type: none"> <li>- Prey delivery – prior to and after fledging – was recorded 13 times, always between 6-11 and 17-19:30.</li> <li>- Preys were always birds (we identified a swift and two sparrows).</li> <li>- The female usually plucked the prey very close to the nest.</li> <li>- Crows were promptly attacked and driven away.</li> <li>- After fledging, the juveniles remained near the site nest – no more than a radius of about 500 metres – until 14 September and were regularly fed, although they had been hunting insects after a few days from fledging. They moved about 1 Km West along the river on 15 September and were seen there along with an adult (probably the male) for the last time the day after.</li> </ul>					



**Photo 1.** Chicks at A1 nest at about four weeks of age (Photo: Marco Sborgia).

#### **Ethical Disclaimer**

The survey did not cause any disturbance to the birds, thanks to the use of long-range scopes. Nest inspection was strictly limited to what was necessary for data collection.

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