

Short Communication

The pygmy cormorant *Microcarbo pygmaeus* in central Italy: the status in the Marche region and the first confirmed breeding record in the province of Pesaro e Urbino (PU)

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Abstract - We report the first confirmed breeding record of the pygmy cormorant *Microcarbo pygmaeus* within the province of Pesaro e Urbino, in a recently discovered heronry located along the Metauro river, where at least 4 nests were found occupied in 2021. In the same year, a further breeding attempt occurred at Miralfiore urban park in the city of Pesaro, proving the species' distribution expansion at regional level and affirming its breeding status.

Key words: pygmy cormorant, *Microcarbo pygmaeus*, Marche region, province of Pesaro and Urbino (PU).

Riassunto - Il marangone minore *Microcarbo pygmaeus* nell'Italia centrale: status nella regione Marche e prima nidificazione accertata nella provincia di Pesaro e Urbino (PU).

Si riporta del primo caso di nidificazione accertata di marangone minore nella provincia di Pesaro e Urbino, con la conferma di almeno 4 nidi nel 2021 presso una nuova garzaia colonizzata da airone cenerino sul fiume Metauro. Nello stesso anno, un tentativo di ulteriore nidificazione ha riguardato il parco urbano del Miralfiore nella città di Pesaro, confermando l'ampliamento della distribuzione a livello regionale e l'affermazione dello status di nidificante.

Parole chiave: marangone minore, *Microcarbo pygmaeus*, regione Marche, provincia di Pesaro e Urbino (PU).

The pygmy cormorant *Microcarbo pygmaeus* is distributed in the southeastern regions of the western Palearctic. Its European breeding population is estimated at 84,600-111,000 mature individuals (BirdLife Interna-

tional, 2021) and is expanding its range towards western Europe, and particularly to Italy (Keller *et al.*, 2020). The species was classified as SPEC1 (European Species of Global Conservation Concern) in 2004 (BirdLife International, 2004) but was downgraded in 2017 (BirdLife International, 2017), and in the latest European Red List of Birds is categorized as Least Concern, given its recent positive population trend (BirdLife International, 2021). In Italy the pygmy cormorant is a regular breeder (Baccetti, Fracasso & COI, 2021). It is a particularly protected species according to national law (157/92), and a species that requires particular conservation measures under the Annex I of the Birds Directive (2009/147/EC). The first confirmed breeding records of pygmy cormorants in Italy occurred in 1981 in the Emilia Romagna region (Fasola & Barbieri, 1981), where it was observed again in 1994 and in subsequent years. The breeding sites have been increasing ever since along the northwestern Adriatic coast and in Apulia. Since 2012/2013 they have mainly been occurring in the area between the cities of Ravenna and Venice, where 2,125 pairs across 16-18 sites located over 7 provinces were recorded (Brichetti & Fracasso, 2018). Among these 7 provinces, one falls within the Marche region and is the province of Ancona (the only one south of Ravenna), where the pygmy cormorant has been breeding since 2009 (Gambelli *et al.*, 2010). However, the breeding population could be expected to expand also southward into the Marche region, where the wintering population is also constantly increasing (Giacchini *et al.*, 2019) as well as in the northwest Italy, Lombardy, where the pygmy cormorant currently nests abundantly, with a maximum of 946 nests that were recorded in 2020, mainly located within the province of Mantua (Fasola *et al.*, 2021).

In January 2021 a heronry was discovered whilst carrying out the International Waterbird Census (IWC) and winter night-roosting cormorants surveys. The colony was located by one of the Metauro river bends, close to a hydroelectric power station within the province of PU. Despite the high degree of anthropization of the area, the colony itself remain secluded since its location is hard to spot and due to the thick riparian vegetation and reedbed-covered banks that make access difficult even for the many local anglers. Furthermore, the hydroelectric power

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plant is not accessible to the public. The site falls within the Special Protection Area, *Zona di Protezione Speciale* IT5310028 “Tavernelle sul Metauro”, managed by the Province of Pesaro-Urbino. The riparian vegetation that has developed on the riverbank where the colony is located, is affected by regularly-recurring flooding. The vegetation is made up of a dense strip of common reed *Phragmites australis*, and a woodland with willows *Salix* sp.pl and black locust *Robinia pseudoacacia*. The understory comprises shrub species like field elm *Ulmus minor*, bramble *Rubus ulmifolius*, hawthorn *Crataegus monogyna*, common dogwood *Cornus sanguinea*, etc. The willows and black locusts show a reduced or even absent canopy possibly due to a progressive desiccation.

On 1 April 2021 seventeen pairs of grey heron *Ardea cinerea* were found occupying the largest nests up in the trees. Other heronries exist along the Metauro river, of variable size up to 30 nests. This recently discovered colony of *Microcarbo pygmaeus* is the first confirmed breeding site for the species within the province of Pesaro-Urbino. This new breeding site emphasizes the importance of wetlands in a region that has always been poor in terms of quantity and quality of such ecosystems.

On 1 April 2021 at least eleven pygmy cormorants were seen showing courtship behaviour in the middle of the heronry, and after eight days two nests were observed at the same site. On 18 May five nests were occupied, of which two had two chicks a few days old, being fed by the parents. On 6 June it was possible to confirm the presence of one nest with two chicks, two nests with three chicks and one nest with four chicks, all almost ready to fledge. Pygmy cormorants had probably bred in this site before 2021, due to the presence of old nests in January 2021.

This first breeding record may suggest an acceptance to less aquatic environments than usual, and the beginning of the colonisation of new breeding areas along the inland watercourses of the Marche region, in environments that only show weak similarities with those found in the traditional breeding territories of the northern Adriatic coast or of the heronry at the Ripa Bianca Nature Reserve, the only other known place in the region where pygmy cormorant has proven to nest until 2021 (Jesi, province of Ancona). Alongside its current breeding population expansion, an important factor that could have influenced the pygmy cormorant to breed in this site is the very limited amount of human disturbance mainly due to the inaccessible hydroelectric power plant. However, the adjacent areas are currently being affected by projects that aim to increase the use of the river by anglers. This represents a significant threat to the whole heronry, including the pygmy cormorants nesting there.

The population expansion of the pygmy cormorant in the Marche region is increasingly evident in winter, when a significant increase in number of individuals and roosts has been documented (Giacchini *et al.*, 2019). In summer as well, more records have been reported across the whole region than in the past. In this context, it is worth mentioning a recent breeding attempt in April 2021 at Miralfiore urban park in the city of Pesaro. Here, a pair tried to nest in a large bush of elder (*Sambucus nigra*), just a

few meters from at least three occupied grey heron nests. This urban site has been particularly visited by herons and cormorants *Phalacrocorax carbo* in recent years, showing a relevant increase in numbers of individuals both in winter and during the breeding season. The expansion of the pygmy cormorant's population occurred despite the strong anthropization that is increasingly affecting many environments within the Marche region.

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