

A CASE OF EARLY BREEDING OF GREY HERON *Ardea cinerea* IN NORTH ITALYPrimer zgodnje gnezditve sive čaplje *Ardea cinerea* v severni ItalijiMARCO GUSTIN¹, ALBERTO SORACE²¹LIPU, Conservation Department, Via Trento 49, I-43100 Parma, e-mail: m.gustin@libero.it²Section of Behavioural Pathophysiology, Istituto Superiore di Sanità, Viale Regina Elena 299, I-00161 Rome, Italy

Grey Herons *Ardea cinerea* are sedentary in the Mediterranean (KNIEF *et al.* 1997). They breed earlier in the year than migrating species of colonial herons (SNOW & PERRINS 1998).

In Italy, Grey Herons are engaged in courtship between February and the end of March (FASOLA & ALIERI 1992). Egg-laying usually takes place between March 10th and April 10th (BRICHETTI & FASOLA 1986), although isolated cases of egg-laying as early as the end of February have been reported (FASOLA & ALIERI 1992). This pattern is consistent with the patterns observed in other European populations of Grey Herons, where most of the egg-laying occurs in March, although some can take place in winter (SNOW & PERRINS 1998).

European populations of Grey Herons have undergone a steady increase since the beginning of the 20th century, possibly due to increased protection of the breeding colonies and breeding sites but also to the increasingly warmer climate (KNIEF *et al.* 1997).

In 1998, we monitored the winter presence of Grey Herons at a site of a 90 pair-strong breeding colony at the Secchia river Reserve (northern Italy: 44°39'N-10°48'E, GUSTIN 1998). On January 20th we found 15 Grey Herons sitting on nests and possibly incubating. A second visit on March 3rd revealed that at least 3 of these nests contained about 15 days old chicks. Because the mean incubation time in Grey Herons is 25–26 days (CRAMP & SIMMONS 1977), the eggs must have been laid between January 15th and 20th. This is one of the earliest cases of breeding ever reported for this species in Italy.

In the 1961–1989 period, the mean temperature in the study area was 2.3°C in December, 1.2°C in January, and 4.2°C in February. The December and January mean winter temperatures in the last 10 years (1990–1999) have not been increasing (Spearman Rank Test Order correlation: mean December temp. vs year; $R = -0.11$, $P < 0.77$; mean January temp. vs year; $R = 0.48$, $P < 0.23$) while there has been a steady increase in the February temperatures (Spearman Rank Test Order correlation: mean February temp. vs year; $R = 0.83$, $P < 0.01$).

Data from the British Trust for Ornithology (BTO) have shown a trend for several species to start breeding earlier in UK over the past twenty-five years, although such trend was not observed in the Grey Heron (CRICK *et al.* 1997). In many species of passeriformes earlier breeding is correlated with climatic factors, such as an increase in temperature and rainfall (CRICK & SPARKS 1999). Similar trends have been found in North American bird species (ROOT & WECKSTEIN 1994).

Information on reactions of Mediterranean birds to climate change is currently lacking. Anecdotal observations of recent early breeding by Grey Herons in northern Italy (this study) and in Sicily (mouth of the river Simeto, CIACCIO & SIRACUSA 1989; lake Lentini, CIACCIO & PRIOLO 1997), and by Woodpigeons, *Columba palumbus*, in Sicily (LA MANTIA 1994), are reported.

Summary

The Grey Heron is the earliest breeder among the colonial herons. Its reproductive activity starts already in March and can last until May. The species appears to be constantly growing in its numbers over the past few decades both in Italy and Europe. In 1998 we observed, in the Secchia floodplains of the Regional Nature Reserve, 15 Grey Heron pairs occupying their nests as early as on January 20th. In March, 3 nests contained about 15 days old chicks, so the eggs must have been laid around January 15th–20th. No temperature increases have been registered during the last 10 years for the month of December and January, while such an increase has certainly been signalled for February. This is one of the earliest breeding records for the species.

Povzetek

Med kolonialnimi čapljami je siva znana kot najzgodnejša gnezdilka v letu. Z razmnoževanjem začne že v marcu, ki potem lahko trajajo do maja. Sicer pa število te vrste vztrajno raste že nekaj

desetletij tako v Italiji kot drugod po Evropi. Leta 1998 smo v lokah Serchia Regionalnega naravnega rezervata opazili 15 sivih čapelj, ki so svoja gnezda zasedle že 20. januarja. V mesecu marcu smo v treh gnezdih našli kakih 15 dni stare mladiče, kar pomeni, da so bila jajca izležena med 15. in 20. januarjem. V zadnjih desetih letih niso bile v decembru in januarju zabeležene nobene povečane temperature, pač pa so bile ugotovljene v mesecu februarju. Zgoraj omenjeno gnezdenje je eno najzgodnejših, kar zadeva to vrsto.

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