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Breeding Avocet in Italy

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POPULATION DEVELOPMENT AND SIZE OF THE BREEDING POPULATION

During the second half of the nineteenth century, the Italian breeding population of Avocet *Recurvirostra avosetta* living in the northern Adriatic coastal wetlands went extinct (Arrigoni degli Oddi 1929). Re-colonisation started in the 1940s when ten pairs were recorded in the Lagoon of Comacchio, Po Delta (Toschi 1955, Brandolini 1961). In Sardinia, c.15 pairs were discovered in the wetlands of Cagliari in 1962 (Walter 1964). Mainly in the 1970s the most rapid population expansion occurred over a large geographical area. Most of the important saltpans were colonised within a relative short period of time (Figure 1). Colonisation was probably facilitated by the improved protection of waterfowl and wetlands, in particular saltpans. The Italian Avocet population doubled during the 1980s (Figure 2). The population increase continued in the

1990s but in Sardinia it decreased after 1995 and in the Gulf of Manfredonia it showed marked fluctuations. The recent negative trend of the Sardinian population was compensated by the population increase in northern Italy. Maximum numbers were reached in 1998-1999 with 1,873-1,970 pairs.

Occasional breeding attempts at sub-optimal sites were recorded during the 1990s. They were probably linked to the general increase of the Italian breeding population. For historical data on Avocet breeding distribution and population numbers in Italy see also Goodwillie (1982), Tinarelli & Baccetti (1989), Tinarelli (1999), Casini & Tinarelli (in press).

The geographical expansion and numerical increase of Italian Avocets at single areas from the 1970s onwards can be detailed as follows below.



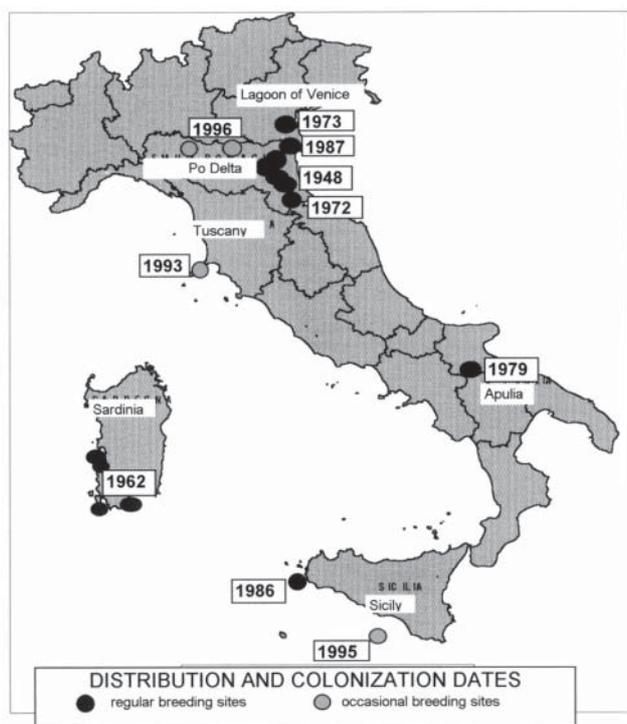


Figure 1. Breeding distribution and colonisation dates of Avocets in Italy.

Lagoon of Venice

First breeding record was in 1973 (Fantin 1975, Rallo 1978). It was followed by counts of 64-69 pairs in 1988 (Manzi *et al.* 1992) and 40-60 pairs in 1992 (G. Tiloca pers. comm.). During the second half of the 1990s the population showed a marked increase due to the colonisation of artificial islands recently created in the Lagoon. 134-144 pairs were recorded in 1998-1999 (F. Scarton & R. Valle pers. comm.).

Po Delta

After the first settlement in the Lagoon of Comacchio (Toschi 1955, Brandolini 1961), the population expanded in the southern part of the Delta in the early 1970s, when Cervia salt pans and the Pialasse coastal lakes near Ravenna were colonised (Boldreghini 1974). The breeding population in the southern part of the Delta has been monitored since 1983 and for the Cervia salt pans, one of the most important breeding sites, there are regular data since 1977 (Casini, 1986). In the last two decades the population showed a general increase (from 308-347 pairs in 1983 to 549-569 pairs in 1998) with marked and frequent fluctuations.

Records for the northern part of the Delta were first obtained in 1987 (two-seven pairs, Manzi *et al.* 1992) but the species had probably bred since 1985. During

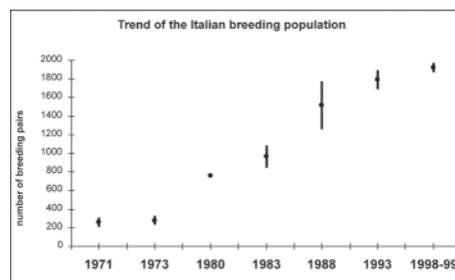


Figure 2. Trend of Italian Avocet breeding population.

the 1990s the population increased from four-five pairs in 1993 to 200-235 pairs in 1999. Avocets colonised empoldered brackish ponds used for extensive fish-farming, brackish lagoons and marshes permanently connected with the sea, and settling ponds of sugar factories (M. Passarella, pers. comm.).

Colonisation of new breeding sites continued during the 1990s: Avocets started to nest in three inland freshwater wetlands in the Province of Ferrara (< 20 pairs), some occasional breeding attempts occurred in small freshwater wetlands in the Provinces of Modena and Parma (c.150 km from the Adriatic Sea coast), and 25 pairs nested in the Lagoon of Valli Bertuzzi in 1999.

Tuscany

Two pairs bred at Orti Bottagone Reserve in 1993 (Tellini Florenzano *et al.* 1997).

Gulf of Manfredonia (Apulia)

In 1979 seven pairs bred in Margherita di Savoia salt pans (Allavena 1982). In the following decade, the population increased from c.50 pairs in 1984-1985 (Bricchetti 1990) to 304-521 pairs in 1988 (Tinarelli *et al.* 1995). In the 1990s counts indicated populations fluctuating around 500-600 pairs (Tinarelli *et al.* 1995, Zenatello *et al.* 1995) with a minimum of 464 pairs in 1996 and a maximum of 658 pairs in 1997. Since 1995 some (3-28) breeding pairs were irregularly observed in Valle Carapelle, an artificial saltwater lake used for fish-farming.

Sardinia

Breeding was first recorded in the wetlands of Cagliari in 1962 (Walter 1964). About 100-130 pairs nested in the early 1970s (Schenk 1976) and 400 pairs in 1980 (Schenk 1982). In the following years the population fluctuated between 500 and 700 pairs (Grussu 1995), with a decrease in 1998 and 1999 (400-430 pairs).



Table 1. Percentages of the local and national breeding populations in different habitats in 1998-1999.

Habitats used by breeding avocets	Percentages of local populations					
	Lagoon of Venice 34-144 pairs	Po Delta 749-804 pairs	Manfredonia Gulf 550 pairs	Sardinia 400-430 pairs	Sicily 40-42 pairs	Italy 1873-1970 pairs
Brackish lagoons and marshes permanently connected with the sea	88.5%	2.1%				11.3%
Dammed ponds of brackish water for extensive fish-farming	10.8%	42.8%				18.1%
Coastal brackish ponds with salted soil or occasionally connected with the sea	0.7%	17.1%		5.0%		8.0%
Operational and recently abandoned salt-pans		27.0%	100%	95.0%	100%	62.2%
Settling ponds of sugar factories		1.0%				0.4%

Sicily

Breeding was first noted in the salt pans of Trapani in 1986 (Surdo 1987). For this site and for the Stagnone di Marsala 20-30 pairs have been reported in 1992 (Lo Valvo *et al.* 1994) and 40-42 pairs in 1999 (R. Ientile, pers. comm.). Occasional breeding has been reported for the Biviere di Lentini in 1995 (Ciaccio & Priolo, 1997).

HABITAT

In the 1990s breeding Avocets in Italy regularly used five types of wetland (see Table 1). Occasionally, Avocets bred in inland freshwater marshlands. The prevalent habitats were wetlands with shallow salt or brackish water. The relative importance of salt pans has decreased from 80% of sites in 1988 to 62% in 1998-99. This is mainly due to the exploitation of other coastal habitats by the north Italian population and by the decrease of the Sardinian population. Nonetheless, salt pans remain the most important breeding habitat for this species in Italy. The occasional breeding records in inland freshwater wetlands and the recent colonisation of sugar factory ponds, mainly in the Po Delta area, indicate that the population is still increasing and a wide range of habitats can be used for breeding.

CONSERVATION

The reasons for the recent decreases and fluctuations of Sardinian and Apulian populations are not clear. However, the occasional and recent colonisation of sub-optimal habitats or sites indicate that the Italian Avocet population is healthy and able to further expand its range. The main factors limiting breeding success in Italy are: adverse meteorological events affecting water levels in unmanaged brackish water ponds; flooding period in working salt pans, which usually occurs just at the time when the earlier clutches are close to hatching (end of April - mid May); predation by Yellow-legged Gull *Larus cachinnans*, corvids and feral mammals.

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