

SUMMARY

*The Marbled Teal (*Marmaronetta angustirostris*) is a monotypic species that constitutes an evolutionary link between the Tribes Anatini ('Dabbling Ducks') and Aythyni ('Diving Ducks'), within the subfamily Anatinae.*

The Marbled Teal is a sarmatic species with a fragmented distribution within the southern Palearctic, which extends from Iberia and the Magreb to Eastern Turkestan, the Punjab and the Indus, including Anatolia, Transcaucasus, the Near and Middle East and Central Asia. The current world population can be estimated at 34,000 birds, the majority of which are found in Asia (31,000), whilst the isolated Ibero-magrebian population contains only about 3,000 birds. It is very likely that the world population has declined by more than 90% this century.

The Spanish population is divided in two main centres of distribution: in Andalusia (centred in the Guadalquivir Marshes) and in Valencia (in the wetlands of Baix Vinalopó). In general terms, these can be considered as separate breeding subpopulations, although with clear movements between the two, especially in periods of drought. There are historical records of the species from 65 Spanish wetlands, with breeding having been confirmed in 13 of them.

*By applying various criteria to evaluate these wetlands, 16 **Sites of Key Importance (SICs)** are identified, 10 of which are in Andalusia, four in the Community of Valencia, one in Castilla-La Mancha and another in the Murcia Region.*

The size of the Marbled Teal in Spain is currently at an all time low, a rapid decline having occurred since 1990 associated with a prolonged drought that has occurred since then. Whilst in 1988 the breeding population was estimated at some 250 pairs, this figure dropped to 45 in 1993 and only 30 in 1994.

In broad terms, the breeding habitat of the Marbled Teal in Spain is characterised by fresh or brackish areas of shallow water which support considerable amounts of emergent and submerged vegetation. The Marbled Teal has more tolerance for salinity than many other ducks species, but hypersaline wetlands are only used occasionally. It mainly uses relatively small waterbodies with dense cover provided by emergent vegetation both on the periphery and interior of the waterbody, but appears to prefer waterbodies of this type that occur within extensive wetlands complexes.

The migratology of the Marbled Teal is extremely complex and poorly understood. True migrations, nomadic dispersions, irruptions and sudden desertions can all occur in the same population and can even be superimposed. The species can be considered migratory in the sense that it makes frequent displacements across national frontiers, but on the other hand it is also nomadic, since it undergoes unpredictable, non-cyclical and opportunistic movements in relation to rainfall and flooding patterns, which themselves are unpredictable in the majority of its range.

At the end of the summer and beginning of the autumn, there is usually a dispersion of Marbled Teal away from the Guadalquivir Marshes, mainly as a consequence of the lack or absence of water. Important numbers of birds disperse to various lagoons in Andalusia, although if the marshes retain a certain amount of water they continue to support many birds. However, in dry years, birds that are unable to begin reproduction undertake an early desertion of the marshes at the beginning of summer; usually these birds concentrate in the same Andalusian lagoons that are used in Autumn, although if these also lack water longer distance movements can occur in which the birds appear to take refuge in the southern Alicante wetlands. In winter, the majority of the Spanish population usually moves to the Magreb, although important numbers remain in the Guadalquivir Marshes in some years.

The biology of the species is very poorly known, since almost no systematic studies have been conducted. Instead there exists a series of observations and data collected in an ad hoc manner. The Marbled Teal seems to be well adapted for breeding in temporary, seasonal and even unpredictable environments, exploiting optimal conditions for breeding and reproduction. It is also able to make use of breeding habitats altered or even created by man's activities. As a result, the species is capable of achieving high breeding success, which is currently prevented in Spain by excessive transformation and simplification of breeding sites, and the proliferation of artificial barriers which increase brood mortality.

The Marbled Teal is protected by two international Conventions (Bonn and Bern) and by an EU Directive (Birds), as well as by the Spanish state legislation (Law 4/89), which list it as «a species in danger of extinction». Of the 16 wetlands identified as Sites of Key Importance (SICs), 12 have been granted some kind of spatial protection at autonomous and/or state level, whilst 10 of them are areas protected at the international level (SPAs and/or Ramsar sites). Thus, three SICs have no or insufficient protection (Laguna de los Tollos, Marjal del Moro and Cañada de las Norias). Unfortunately, formal protection status does not provide true protection to the species and its habitats.

The drastic decline in the Spanish population of the Marbled Teal is due to various causes, which can be divided into two main classes: loss and degradation of habitat and direct threats towards the species (hunting, egg collection, etc). Although both types of factors have always operated together, until the 1950s direct threats were the most important, whilst since that date the transformation of wetlands has become more important. Almost all of the SICs suffer threats of various types, from conversion of the habitat to pollution. Furthermore, the hunting and persecution of important numbers of adults and chicks is still a regular event.

The effective protection of the Marbled Teal requires the urgent adoption of two basic measures: effective conservation and restoration of suitable habitats and the elimination of hunting in the sites most important for the species, measures which would probably stimulate the natural expansion of the population to other Spanish wetlands.