

Situation of The Aquatic Warbler *Acrocephalus paludicola* in León province (NW Spain) first data on its phenology, stopover and problems of conservation

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Introduction

Thousands of birds use the wetlands of the south-eastern of the province of León (NW Spain) during their migrations, from the breeding areas, until the quarters of wintertime. Among them, Aquatic Warbler (*Acrocephalus paludicola*), species globally threatened, for this reason in 2004, a study based on the scientific ringing was begun, whose objectives are to study the stopover of this species in the different from the province's wetlands, to value the importance of the habitat that occupies and of detecting its main problems of conservation. In the present work the first collected data from a bibliographical revision and from its ringing in the field are presented.

Material and Methods

In one first phase, we have made a bibliographical revision of the published observations of Aquatic Warbler to date in the province of León, together with a query to the local ornithologists and ringers, that along with our own data, it has allowed us to elaborate a complete and updated database of this species. The second phase consisted of a ringing campaign during the autumn migration of 2004 in three wetlands of the south-eastern part of the province. The election of the ringing localities was based based on the previous experience: favourable habitat, observation of birds and old ringing journey.



- 17 ringing journey between August the 20th and October the 6th.
- Total effort of 69.25 hours.
- The capture method was based in mist trapping nets (6-12 nets).
- 72-144 meters long, and 180-359 square meters of vertical surface.
- The nets were actived between 3 and 5 hours.
- Use of digital Aquatic Warbler's birdcall.
- The captured birds were ringed with official rings provided by the Migratory Species Office of the Spanish Environment Ministry.
- Afterwards data were taken by using the recommended standards.

As sedimentation patterns it has calculated: the minimum period of permanence as the difference in days between the date of capture and the last date of recapture; and the rates of fattening have been considered as the difference in weight between the date of recapture and the one of capture in relation to the number of passed days, fat loads as the percentage of real weight that supposes the difference between the real weight and the awaited one, and the ranges from the weight and the load of fat, according some modified of Penrycuick's formula.

Zotes wetland habitat



90% herbageous vegetation and marshy of low bearing.



2% arboreal species of *Salix* sp., *Populus* sp., *Crataegus* sp. and *Rosa* sp.



1% canalized stream.



7% occupy helophytic great vegetation: *Typha* sp. and *Scirpus* sp.

- Elevation 775 m
- Length 3700 m
- Surface 39 ha
- Maximum width 170 m
- Minimum width 115 m



Aerial photo of Valcavado stream (Zotes del Páramo)



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The marshy ecosystems are associated to the sedimentary river basins of large rivers; this it is the case of the Depression of the Duero, which comprises the south-eastern part of the province of León (NW Spain). Two types of wetlands are numerously found: endoreic and inland lagoons associated to water-bearing underground or phreatic levels next to the surface, and small plateau streams. Both ecosystems allow the development of marshy formation and are subject a strong seasonality.

Nevertheless, in the last decades, the irrigable surface has been multiplied, provoking the destruction many ecosystems. In other cases they have been put under strong changes in its operation, mainly an intense eutrophication and the rupture of the flood rates. They have become water-drainages of leftover waters of crops like the corn (*Zea mays*), which they contribute a great amount of water during the summer period, allowing the development of helophytic vegetation during all the summer station, and associated to this, a rich and diverse community of invertebrates.

Results and discussion

Until year 2004, in the province of León a total 17 Aquatic Warbler individuals has been detected, distributed in 14 records, 11 as a result of its ringing and three observations from field, all of them during the autumn migration. The record number and the different distribution support two ideas: first, that Aquatic Warbler is a scarce migrant but to regular in the province of León. And second, that a regular route through the North river basin of the Duero and plateau exists during its autumn migration, this has been already contrasted by others authors (Jubete, et al., 2001). To date, there has not been foreign recapture.

The observations take place in five humid zones different from the areas of El Páramo Leonés and El Payuelo. Three of them are endoreic lagoons and the rest are small streams whose hydric regime is conditioned to the leftover waters of the irrigated land crops that limit them. Only the Lagoon of Villadangos del Páramo has official protection since it is included within the Regional Catalogue of Wetland Zones of Castilla y León. The rest lacks any type of official protection at the moment.

Site	Area	Records	Specimen	Protected area
Laguna de Villadangos	Páramo Leonés	1	4	SI
Laguna Gudosa	Payuelo	1	1	No
Arroyo El Pical	Payuelo	2	2	No
Arroyo Valcavado	Páramo Leonés	9	9	No
Laguna San Andrés	Páramo Leonés	1	1	No

Concerning the phenology, no registry has been detected during the spring migration. The autumn migration extends from the 20th August to the 28th September, most of the records take place during the last fortnight of August, which agrees with one of described the maximum tips of autumn migration for the species in Spain (Añorza et al., 2001), although the delayed beginning of the campaign ringing has not allowed to detect the beginning of the migratory flow. It should be emphasized the capture of an adult bird at the end of September.



- 10 birds were captured: 4 adults (Euring 4) and 6 young (Euring 3).
- Five retraps of 3 different birds were obtained, that have allowed us to collect the following preliminary data on:
 - Rates of retraps (33.33%).
 - Fat deposition rates (-0.53 + 0.35 g/day).
 - Stopover patterns (minimum stay time 3-5 days).
 - Medium flight range (723 km).

Conclusions

Aquatic Warbler in León province is a regular but scarce migrant.

It uses wetlands of the south-eastern of the province of León as zones of feeding and stopover sites during its autumn migration, streams mainly associated to irrigable crops.

The volume of registries during year 2004 supports the idea of an important step of Aquatic Warbler through interior of the Meseta Norte, in concrete through the river basin of the Duero during its autumn migration.

It is necessary to provide these wetlands with some type of official protection in the future, with the objective to avoid their degradation and to manage them appropriately.

Conservation

Most of these wetlands have survived the intense changes in the uses of urban and agricultural ground of the last decades. The agricultural intensification, dryings and the title concentrations have fragmented and destroyed it, although at the moment its main problem of conservation is its transformation in crops of Black Poplar (*Populus x canadensis*), in its majority subsidized by Common Agricultural Policy.

References

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Photos

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