

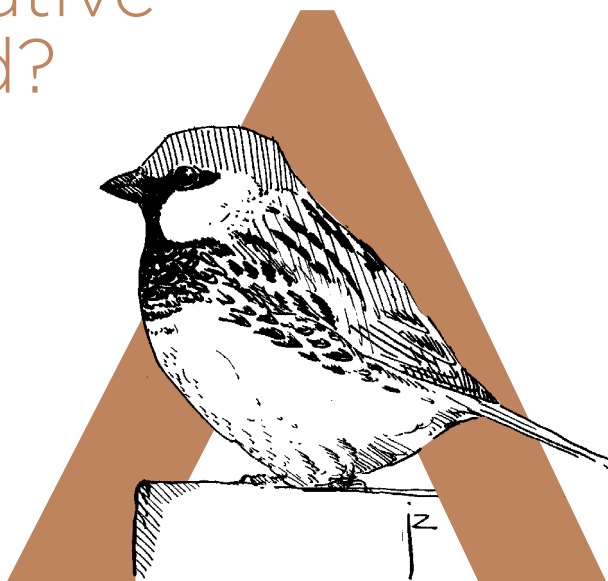
The Spanish Sparrow in Madeira: native or introduced?

O pardal-espanhol
na Madeira: nativo
ou introduzido?

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ABSTRACT

The Spanish Sparrow is a resident species in the Madeira archipelago, occurring on the islands of Madeira and Porto Santo. The first documented observations on the island of Madeira date back to the 1930s. However, its status in the region, namely with regard to the origin of the population, is not entirely clear and the information published on this subject is inaccurate, somewhat speculative and, in some cases, contradictory. Based on extensive bibliographical research, the available information on the occurrence of the Spanish Sparrow in the Madeira region is presented, aiming to trying to clarify its status, especially in what concerns its origin. However, more studies are needed to confirm whether it might have arrived naturally or having been introduced.

Keywords: bibliographic research, colonization, history, *Passer hispaniolensis*, status

RESUMO

O pardal-espanhol é uma espécie residente no arquipélago da Madeira, ocorrendo nas ilhas da Madeira e de Porto Santo. As primeiras observações publicadas na ilha da Madeira referem-se à década de 1930. Contudo, o seu estatuto na região, nomeadamente no que diz respeito à origem da população, não é totalmente claro e as informações publicadas sobre este assunto são imprecisas, algo especulativas e, por vezes, contraditórias. Com base numa vasta pesquisa bibliográfica, faz-se aqui um ponto de situação acerca da informação conhecida sobre a ocorrência do pardal-espanhol na região da Madeira e sobre a possibilidade de a sua chegada ter sido natural ou através de introdução. No entanto, mais estudos serão necessários para confirmar qualquer uma das hipóteses.

Palavras-chave: revisão bibliográfica, colonização, história, *Passer hispaniolensis*, estatuto

Introduction

The Spanish Sparrow *Passer hispaniolensis* is a small bird belonging to the order Passeriformes and the family Passeridae (Gill et al. 2022). This species is widely distributed throughout the Palearctic, ranging from the Iberian Peninsula and North Africa to Central Asia, including the Mediterranean basin, Asia Minor and some parts of the Middle East (Summers-Smith 1988, Cramp & Perrins 1994). It can also be found in three different archipelagos that are part of the region known as Macaronesia: Madeira, the Canary Islands, and Cape Verde (Cramp & Perrins 1994). This species is partially migratory; hence, it is a breeding visitor in some parts of its range, whereas in others, it occurs only in winter, but in some regions it is also nomadic (Summers-Smith 1988).

In the Madeira archipelago, the Spanish Sparrow is resident, and it can be found in both Madeira and Porto Santo islands (Oliveira & Menezes 2004). Its distribution in this region has changed, especially on Madeira Island, where its population has declined markedly and the species is currently rare, although exact figures are not available (Oliveira & Menezes 2004, SPNM 2009, M. Biscoito pers. comm.). In contrast, this species is common or even abundant in Porto Santo (Biscoito & Zino 2002). On this island, it breeds on palm trees, and flocks of up to five hundred birds have been recorded in 2022 (A. Andrade pers. comm.). The status of the Spanish Sparrow in the region, especially concerning the origin of the birds that occur on the islands, is unclear. Some authors state that the species appeared naturally around 1935, while others consider it an introduced bird and much information has been published about this. However, details are often vague, a bit speculative and, sometimes, contradictory. This short note aims to bring together the current knowledge about the occurrence of the Spanish Sparrow in Madeira and clarify its status in

the region concerning the origin of the existing population.

Methods

For this research, a detailed bibliographic analysis was carried out. All relevant works about the birds of Madeira, especially the older ones, were carefully analysed to collect information about the Spanish Sparrow. The aim was to understand and reconstruct the history of this species in the region and to evaluate the hypotheses presented in different studies and reports. Furthermore, several direct contacts were made with authors of published works to understand the reasons that led them to conclude that the species had been introduced in the region. Old meteorological records were checked, mainly referring to the 1930s when the Spanish Sparrow was first recorded in the region.

Results

A summary of the relevant published information about the arrival of the Spanish Sparrow in Madeira archipelago is presented hereafter. The oldest studies and reports dealing with the birds of Madeira, namely all those published before 1935, do not mention the Spanish Sparrow. Specifically, there are no mentions of the Spanish Sparrow in the lists published by Harcourt (1851, 1853) or Schmitz (1896, 1900) that comprise all birds recorded in the region, including vagrants. It seems logical to conclude that the species was not present in the archipelago in the 19th century. It is worth noting that all these lists include the House Sparrow *Passer domesticus* as a straggler.

Several authors support the hypothesis that this species arrived naturally in the archipelago in the 1930s, colonising it and establishing a breeding population. The oldest published information on the presence of Spanish

sparrows in Madeira is by Sarmiento (1936). This author states that the species was nesting in Madeira “only a few years ago”, having been “first observed in the palm trees of the Municipal Garden of Funchal, and later, at some farms in the surroundings”. However, an exact date or other details about the circumstances under which it first appeared in the region are not supplied.

Booth (1941) provides more specific elements and explicitly mentions that the first record was made in May 1935, claiming that the species was unknown in Madeira before that date. On this occasion, after nine days of strong easterly winds, the species was observed at different places on the island, settled down and nested, and increased quickly after that (Booth 1941). It should be noted that this author does not clearly state when the first nesting records took place, nor does he mention Porto Santo at all.

A consultation of meteorological data for May 1935 made it possible to verify that there was indeed a period of east or south-east winds between the 14th and 23rd (FCUL 1936). This information confirms Booth's statement concerning the weather for the period in question. It should be noted that between 1921 and 1950, the mean number of occurrences of east or southeast winds recorded at Funchal in May was usually lower (13 on average versus 25 in 1935, with three daily measurements) (SMN 1955). The existing data is not very detailed, as measurements are available for Funchal only, but it suggests that the meteorological situation recorded in May 1935 was anomalous for that time of year, with more easterlies than average. It is also worth mentioning that the oldest specimen of the Spanish Sparrow in the collection of the Natural History Museum in Funchal was collected in Madeira by Manuel Bianchi on 22 May 1935 (M. Biscoito pers. comm.).

The authors of works published in the following decades (e.g. Bannerman & Bannerman 1965, Summers-Smith 1988, Cramp & Perrins 1994, Cabral et al. 2005, Equipa Atlas 2008, 2022) do not raise doubts about the

natural arrival thesis. However, they are all based on Booth's publication and present no novel data.

The hypothesis that the Spanish Sparrow was introduced in Madeira seems relatively recent, and it was not possible to identify its original author. However, published works stating that the species had been introduced in the region only began appearing in the second half of the 1990s. Câmara (1997) states that the Spanish Sparrow appeared around 1920 and that the species had come from the Canary Islands, probably under the effect of strong winds, or had been carried in a cage, but he does not seem to be certain which of the hypotheses is the right one and does not provide any reference for any of them.

Oliveira (1999), Zino & Biscoito (2002), Cassey (2002), and Soares et al. (2021) mention that the species was introduced in the region. However, they do not mention the source of this information nor provide factual data such as the date or place of the first sightings. Cassey misquotes Summers-Smith, suggesting that this author advocates the possibility of an introduction.

As to information available online, the website of the organisation BirdLife International (2022) classifies the species as being introduced not only in the Madeira archipelago but also in the Canary Islands and Cape Verde; however, no reference is provided to support this status.

Discussion

The existing bibliography is divided regarding the origins of the Spanish Sparrow that currently occurs in Madeira. Studies published before 1995 converge around the possibility of a natural occupation. In the case of more recent works, several authors consider that the species was introduced. The hypothesis of a natural occupation seems plausible, given that: (1) this species is highly mobile and has both breeding and wintering populations in Northwest Africa, from where

the species could have arrived (2) detailed elements are provided by one author (Booth 1941) on the circumstances and places of its appearance, including the anomalous meteorological circumstances under which it happened, suggesting that Spanish Sparrows may turn up at new places as a result of specific weather patterns, and (3) available evidence suggests that the species also colonised the Canary Islands and Cape Verde, as there is no proof of introduction on any of these archipelagos. However, the statement provided by Sarmiento (1936) opens the possibility that the species might have been nesting before 1935, although an exact date is not provided, so it is not possible to be certain when the first records actually took place.

It should be emphasised that none of the authors that argue in favour of the natural colonisation of Madeira make any mention of Porto Santo. The possibility that the archipelago was colonised in stages, just like it seems to have happened in the Canary Islands, where the species was first recorded at Lanzarote in 1828 and then gradually spread westwards to the rest of the archipelago (Summers-Smith 1988), cannot be excluded. In this scenario, the species might have arrived in Porto Santo several years earlier and remained unnoticed until it finally reached the main island, although the opposite is also a possibility.

A puzzling aspect about the theory of a natural arrival in May is the fact that this coincides with the breeding season in North Africa (Summers-Smith 1988), so theoretically, the birds should not be on the move at this time of the year.

The introduction hypothesis is poorly documented, and the authors that claim that this species was introduced provide no empirical evidence supporting this hypothesis. None of them refutes or questions the hypothesis presented by other authors regarding the natural arrival.

Summers-Smith (1988) also emphasises that the species is not common in captivity and that no cases of deliberate introduction

of Spanish Sparrows are known anywhere on the planet, unlike what happened with the House Sparrow and the Tree Sparrow *P. montanus*.

In a later work, the same author (Summers-Smith 1992) explains that although Madeira is 600 km away from the African coast, the Spanish Sparrow is one of the most mobile members of its family. This species is migratory in parts of its distribution area and can undertake wandering movements in North Africa. He considers that both the Canary Islands and Cape Verde were reached and colonised naturally, and that the possibility of introduction is highly unlikely. Furthermore, he mentions that in Madeira, the urban niche was previously occupied by the native Rock Sparrow *Petronia petronia*. However, the latter species abandoned this habitat after the Spanish Sparrow arrived in the region.

Based on the available evidence, it is not possible to be certain about the origin of the Madeira population, and none of the possibilities (natural colonisation or introduction) can be ruled out with certainty. It would be interesting to carry out more detailed studies about the movements undertaken by the Macaronesian birds, as this may unveil unknown aspects about their migratory patterns.

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References

- Bannerman, D.A. & Bannerman, W.M. 1965. Birds of the Atlantic Islands. A History of the Birds of Madeira, the Desertas and the Porto Santo Islands. Vol. 2. Oliver & Boyd, Edinburgh and London.
- BirdLife International 2022. Species factsheet: *Passer hispaniolensis*. Downloaded from <http://www.birdlife.org> on 08.08.2022.
- Booth, H.B. 1941. Two Madeiran Birds. The Naturalist: 108.
- Cabral M.J., Almeida J., Almeida P.R., Delinger T., Almeida N.F., Oliveira M.E., Palmeirim J.M., Queiroz A.I., Rogado L. & Santos-Reis, M. (Eds) 2005. Livro Vermelho dos Vertebrados de Portugal. Instituto da Conservação da Natureza, Lisboa.
- Câmara, D.B. 1997. Guia de campo das aves do Parque Ecológico do Funchal e do Arquipélago da Madeira. Associação dos Amigos do Parque Ecológico do Funchal, Funchal. Cadernos do Parque Ecológico no. 1. 132 pp.
- Cassey, P. 2002. Comparative analyses of successful establishment among introduced land birds. PhD Thesis, Griffith University, Brisbane, Australia.
- Cramp S. & Perrins C.M. 1994. The Birds of the Western Palearctic Volume VIII. Oxford University Press, Oxford, New York, 899 pp.
- Equipa Atlas 2008. Atlas das Aves Nidificantes em Portugal (1999-2005). Instituto da Conservação da Natureza, Sociedade Portuguesa para o Estudo das Aves, Parque Natural da Madeira e Secretaria Regional do Ambiente e do Mar. Assírio & Alvim, Lisboa.
- Equipa Atlas 2022. III Atlas das Aves Nidificantes de Portugal (2016-2021). SPEA, ICNF, LabOr/UE, IFCN. Portugal.
- FCUL – Faculdade de Ciências da Universidade de Lisboa 1936. Anais do Observatório Central Meteorológico “Infante D. Luiz”. II Parte – Observações das Estações Meteorológicas – Volume LXVI – Ano 1935. Papelaria Fernandes. Lisboa.
- Gill, F., Donsker & Rasmussen, P. (Eds). 2022. IOC World Bird List (v12.2). doi: 10.14344/IOC.ML.12.2.
- Harcourt, E.V. 1851. A Sketch of Madeira. (birds pp. 115-123, 165-167). John Murray, London.
- Harcourt, E.V. 1853. Notice of the birds of Madeira. Ann. Nat. Hist. 12 (2 Ser.): 58-63.
- Oliveira, P. 1999. A Conservação e Gestão das Aves do Arquipélago da Madeira. Secretaria Regional de Agricultura, Florestas e Pescas, Funchal.
- Oliveira, P. & Menezes, D. 2004. Aves do Arquipélago da Madeira. Serviço do Parque Natural da Madeira. Funchal.
- Sarmento, A.A. 1936. As Aves do Arquipélago da Madeira. Funchal.
- Schmitz, E. 1896. As aves da Madeira. Ann. Sci. Nat. 3: 163-168.
- Schmitz, E. 1900. As Aves da Madeira. Ann. Sci. Nat. 7: 123-135.
- SMN – Serviço Meteorológico Nacional 1955. O Clima de Portugal, Fascículo VIII – Açores e Madeira. Lisboa.
- Soares, F.C., Leal, A.I., Palmeirim, J.M. & Lima, R.F. 2021. Niche differences may reduce susceptibility to competition between native and non-native birds in oceanic islands. Diversity and Distributions 27, 8.

SPNM – Serviço do Parque Natural da Madeira. 2009. Atlas das Aves do Arquipélago da Madeira. Downloaded from <https://www.atlasdasaves.netmadeira.com> on 10.08.2022.

Summers-Smith, D. 1992. In Search of Sparrows. T & A D Poyser. London.

Summers-Smith, J.D. 1988. The sparrows: a study of the genus *Passer*. T and AD Poyser, Staffordshire.

Zino, F. & Biscoito, M. 2002. Aves do Arquipélago da Madeira. Direcção Regional do Ambiente. Funchal.