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Will the melody linger on?

Morocco moves to save the goldfinch

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Summary

The goldfinch is at risk of extinction in the Maghreb.¹ Years of unrestrained poaching and trafficking have almost decimated it in Tunisia and Algeria. Morocco, its last preserve in the North African sub-region, is today the main hotspot for poaching and trafficking the species. The songbird, which fetches hundreds of euros in neighbouring countries (and in Europe), is prized for its glorious voice and is domesticated and trained for singing competitions. Despite increasing awareness of the threat and many efforts to protect it, Moroccan wildlife and law enforcement authorities are struggling to detect and prosecute poachers and traffickers and prevent the eradication of this ornithological treasure.

Key points

- The goldfinch has almost disappeared from Tunisia and Algeria and in Morocco its numbers are declining.
- The reduction in the population is the result of environmental factors as well as of a high demand in the sub-region and in Europe, where the bird is domesticated and trained to sing in competitions.
- Criminal networks use Morocco as a hub for catching goldfinch and trafficking them to Algeria and Tunisia.
- Morocco has adopted legislation to protect the goldfinch and launches regular operations to combat the trafficking of protected species.
- Bringing goldfinch associations and federations into the regulatory ambit poses a challenge.
- There is no dedicated strategy to address the illicit capture and trafficking of the goldfinch in the Maghreb.

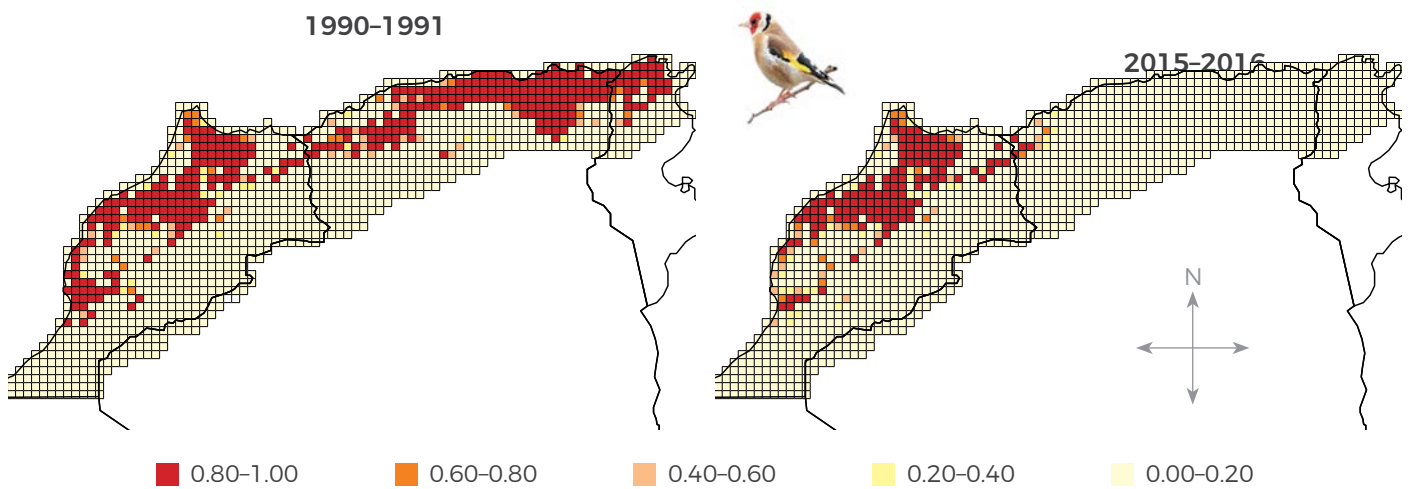
Introduction

In the past 20 years the only scientific study that has attempted to estimate the population of the goldfinch local sub-specie (*carduelis carduelis parva*) in the Maghreb concluded that it has declined by 56%, particularly in Algeria and Tunisia.² What we know from field observation, however, is that today the bird exists almost exclusively in Morocco and its fate now lies in that country's hands.

Although both amateurs and specialists have observed the decline, there has been little research into the reasons for it.³ The destruction of the bird's habitats, the use of pesticides and even climate change have certainly contributed, as they have in the case of many other vulnerable species. But in the case of the goldfinch there is another reason.

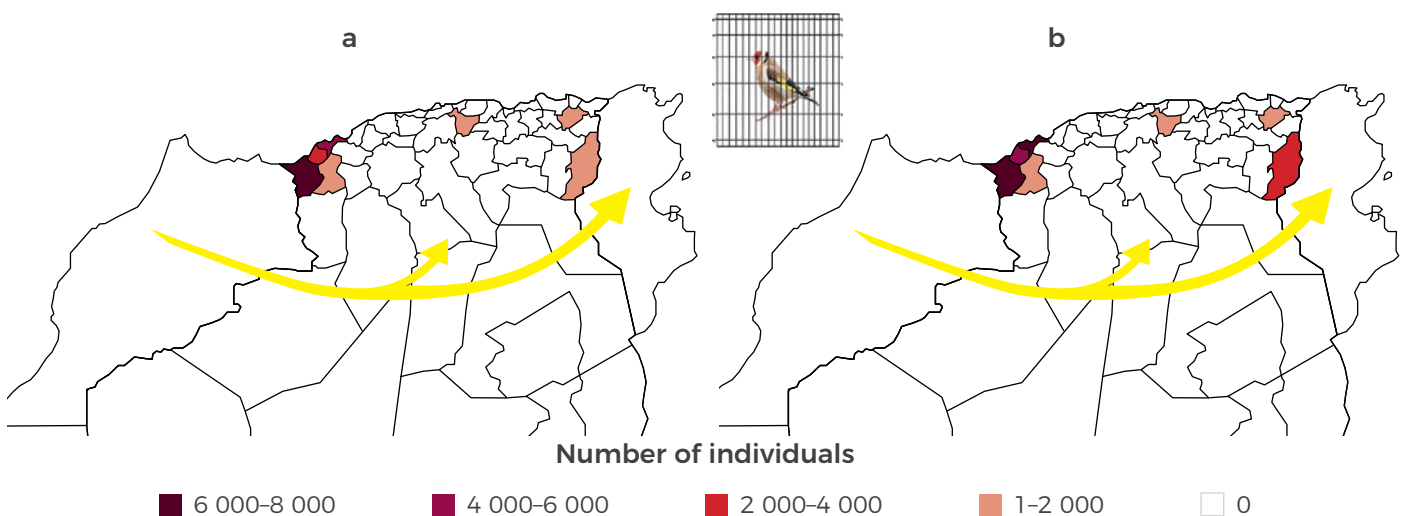
In 2017, using extrapolation methodology, this rare scientific study conducted in Algeria concluded that the

Figure 1: Population distribution before (1990-1991) and after (2015-2016) the start of industrial poaching of the wild European goldfinch in the western Maghreb



Source: R Khelifa, R Zebbsa, H Amari, M K Mella, S Bensouilah, Al Laouar & H Mahdjoub, 'Unravelling the drastic range retraction of an emblematic songbird of North Africa: Potential threats to Afro-Palearctic migratory birds', Nature Scientific Reports 7, April 2017, www.nature.com/articles/s41598-017-01103-w.

Figure 2: Number of individuals and occasions of interception of the European goldfinch by authorities in Algeria



Source: Khelifa et al April 2017

Maghrebi practice of domesticating the goldfinch has led to 'industrial poaching' (a term used to highlight a high level of poaching for the purpose of a dedicated market) and the first consequence is its decline in Algeria and Tunisia.⁴ Now cross-border trafficking of the songbird is threatening its last haven.⁵

To understand why nearly 16 million goldfinches would be caged in the Maghreb, it is important to appreciate the cultural practices surrounding this emblematic songbird.⁶ This policy brief details the main findings relating to the trafficking of goldfinches from Morocco, gives an overview of the situation in Tunisia and makes recommendations about ways in which Morocco might prevent the decimation of the bird in the Maghreb.

Objective

The objective of this policy brief is to:

- Contextualise goldfinch poaching and trafficking in Morocco and provide an overview of its scale;
- Provide a comparative case study of Tunisia, where the goldfinch has become extinct after decades of intense poaching;
- Summarise policy responses by Morocco and assess them; and
- Recommend ways of addressing the problem.

Scope and methodology

The survival of the goldfinch in the Maghreb is under threat. Currently it is only in Morocco that the future of the species seems less threatened. This paper draws on a scientific study conducted in 2017 of the many factors that have contributed to the extinction of the bird in Algeria and goes on to consider the situation prevailing in Tunisia.

It draws on qualitative research conducted over seven months, from January to July 2019. Desk top research was augmented by 12 preliminary unstructured interviews with international actors, non-governmental organisations and academics working in the field of wildlife preservation in the Maghreb.

Thereafter 33 structured interviews were conducted in Morocco and Tunisia, involving relevant stakeholders such as poachers, sellers, representatives of goldfinch associations and wildlife and law enforcement authorities. Field visits were conducted to natural parks and markets where the goldfinch either lives or is sold.

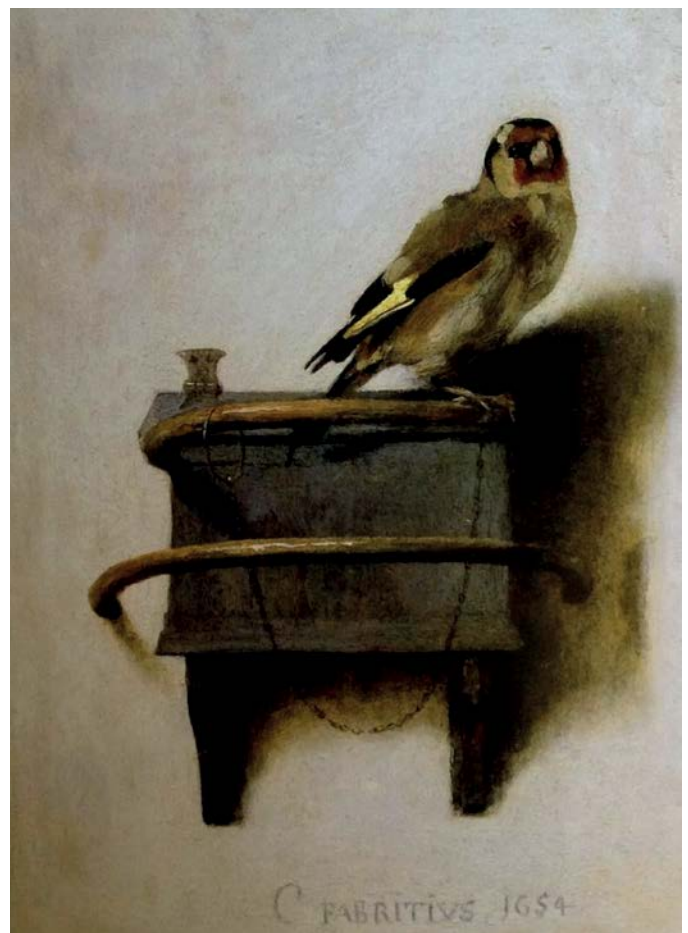
Finally, a consultative validation workshop involving 15 representatives of wildlife and law enforcement authorities was held in Rabat, Morocco, in July 2019.

Understanding the demand

This section gives a broad overview of the trade in goldfinch. We consider the actors involved, the methods used to capture the bird, trade routes and what is known about pricing at different stages of the process. These elements are considered along with cultural and social aspects relating to the domestication of the goldfinch in the sub-region.

The European goldfinch (*carduelis carduelis*) is a small bird of the passerine family, known for its high colour, bright red face and yellow wing patch.⁷ A native of Europe, Asia and North Africa, it has also been introduced in South America and Australia. Because of the beauty of its plumage the bird was immortalised in a multitude of Renaissance paintings.⁸

Carel Fabritius, *The goldfinch*, 1654



Source: Wikipedia

In addition to its glorious plumage and its role as a ceremonial bird, the local Maghreb goldfinch, *carduelis carduelis parva*, has outstanding vocal abilities that distinguish it from other songbirds. Fast, interspersed with rolls, bewitching, the song of the goldfinch has seduced Persian kings and Umayyad conquerors, from the fine connoisseurs of music to the simple laymen.⁹

Its ability not only to imitate the songs of other birds but to improve on them has resulted in its Arabic name, 'al-hasun', from the verb 'hasana', meaning 'to improve'. In Algerian, Moroccan and Tunisian dialects the bird is also known as 'mokneen', 'boomezyane' or 'staila'.

Official postal stamps representing goldfinches in Morocco, Algeria and Tunisia



Source: An anonymous goldfinch amateur in Morocco

The goldfinch also has a strong socio-economic value in the sub-region, with workers seeing in its beauty and song an ode to their freedom, stolen by hard and repetitive work.

For me, the bird represents a respite and an escape for people who feel trapped in their lives, their work, their condition ... Craftsmen probably best represent who are the people owning the goldfinch in the Maghreb. A craftsman spends his day imprisoned by his routine, his only companion in what he could see as a 'detention' is the goldfinch!¹⁰

For centuries now the unique vocal capacity of the goldfinch¹¹ has led bird owners – mainly craftsmen – to organise singing competitions and today some amateurs are considered to be professional goldfinch trainers; their birds competing at national and international level.

Trophies for goldfinch singing competitions in the city of Oued Zem, Morocco



Source: Le Matin Online

The levels of organisation of these competitions differ in the three Maghrebi countries, with Morocco boasting the most integrated system thanks to the role played by amateur 'associations' gathered in 'federations'. In total, there are more than 70 associations of amateur goldfinch trainers throughout the country, spread over three federations.¹²

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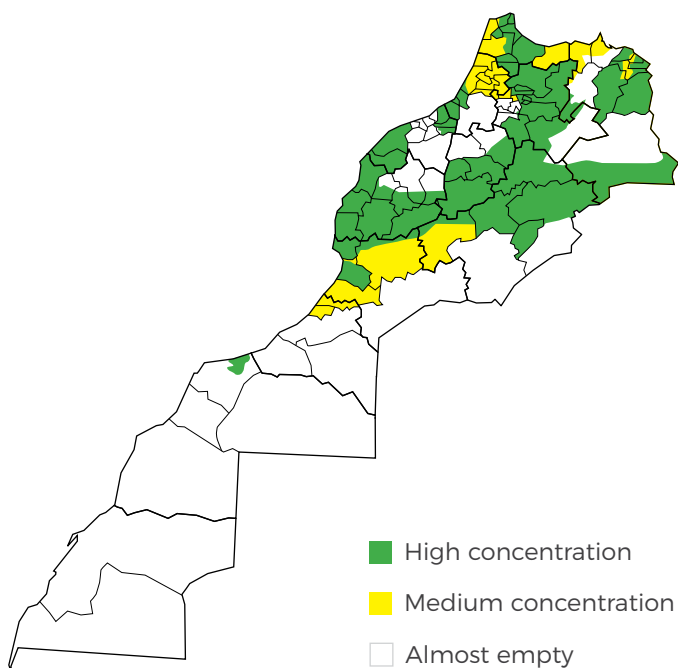
Where the problems begin: An overview

Distribution of the goldfinch in Morocco

Despite the absence of a comprehensive study of the overall goldfinch population of Morocco, available data have enabled researchers to establish the contours of its habitats.¹³

Figure 3 shows that the goldfinch is currently mainly located in the northern part of the country, although it has more recently also been observed in the southern area around Laayoune. There are three distinct zones in the north:

Figure 3: Areas of distribution of goldfinch in Morocco, July 2019



Source: Association Nature & Solutions for ENACT

- A high concentration zone in the region of the High Atlas, the Middle Atlas, the Western Rif and the Eastern midlands area;
- A medium concentration in the region of the anti-Atlas, between Agadir and Ouarzazate; and
- An almost empty zone in a circular area of the Central Plateau region from Rabat to Fes, Khouribga, Marrakesh and Casablanca, also known as the Gharb region, as well in the Oriental plateau – an area in which there was once a high concentration.¹⁴

'In the late 1990s it was possible to see groups of 30 to 50 birds, today, it is rare to see more than one or two together,' said one poacher.

Open source data show a clear reduction in the numbers of sightings of the bird.¹⁵ Data provided by ornithologists and specialists encountered during the field research indicate that in some areas the numbers have dropped by between 50% and 100%.

We all know that the capture and trafficking of goldfinches are among the reasons for the decline of their population in Morocco. The species is in clear decline throughout Morocco and we see fewer and fewer goldfinches in the wild. It is true that we can still observe them, but much less so. I remember when I was young, you could see it in quarries, in the small gardens of the city (Rabat), as well as in the suburbs, where there was still greenery. Nowadays, it is almost impossible to see the goldfinch in the city. This is a sign that the species is in decline.¹⁶

So, even though the goldfinch is more prevalent in Morocco than it is in other Maghrebi countries, the numbers have diminished considerably.

From cultural practice to poaching

Almost every Moroccan, Tunisian and Algerian child has, at one time or another, captured a goldfinch.

I have captured goldfinches since childhood. Our elders used to capture it before us, and I have learned with them. Then, when I grew up, I continued to do it by myself. Today, in every neighbourhood of every city, there are at least, two to three persons that train the goldfinches at home. But not everyone captures it. Most of them buy it and train it.¹⁷

The historical existence of goldfinch competitions has long led amateurs to capture the bird for domestication, either for their own pleasure or to train and resell them for competition purposes. Although local demand remains an important factor, transnational demand for goldfinches has increased due to the drastic reduction of the goldfinch population in Algeria and Tunisia, where demand remains high. Those who would occasionally capture the birds to cater for local cultural practices have turned into poachers. Today goldfinch poaching is a regular source of income for some individuals.

The three poachers we encountered and spoke to during our field research were all men aged between 35 and 45, with limited education (primary school or junior school) and skills. Many had encountered socio-economic challenges such as unemployment. However, what they all have in common is that they have known about the birds since childhood, have great affection for them and are aware of the illegal aspects of their activity and the dangers it represents to the survival of the species. They frequently raised the absence of socio-economic opportunities as a justification for their involvement in poaching.

I am aware that the goldfinch is a protected species and that the law does not allow me to capture it. We shouldn't capture it, it's a living being. But my material life conditions and the circumstance led me to do it. I don't have any other alternative. Plus, it gives me a real pleasure to be in contact with the goldfinch. Today, capturing and reselling the goldfinch is my main source of income. But I'm not the only one here in the region. I know many people involved in this activity, including friends. I would say that I know more than 40 people in this business.¹⁸

How, when, where and how much?

How

The original method of capturing goldfinches was to make craft glue by melting baby bottle teats or pieces of tyres and placing them on what are called 'semar' or 'guernina' plants located near water points. If the bird landed with its claws on the filament soaked in glue it could usually be detached without any real damage. However, problems arose if the bird's wings were also stuck. In such cases the risk of injury was high.

This method was satisfactory when the capture of the birds was a hobby rather than a source of revenue. Since the transnational demand has grown, methods of capture have evolved. Poachers today, in an effort to capture more than one bird at a time, use a net, a rope, stakes and two wooden sticks, a method that involves risks for the bird. If it lands too close to the sticks and not in the centre of the net, when the

catcher closes the net the sticks may fall on the bird, breaking its wings or even killing it.

In both cases (craft glue and nets), a caged goldfinch, known as 'the caller' (stiti), is often used to attract other birds. Goldfinches can be attracted to a call from up to 1 000 metres away. The main problem with the use of nets is that other types of endangered birds may also be trapped.

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When

The best time of year to capture goldfinches in Morocco is said to be between March and September, peaking in July, when the juveniles first leave the nests. These days juvenile birds, which were previously not in demand, are also targeted by poachers because they are more easily trained and can thus be sold for much higher prices.

In the summer, when temperatures are high, most birds are captured at water spots at about noon, or in the late afternoon. During the rest of the year the best time for capture is dawn. The operation may take a few hours in spring and summer, while during the rest of the year it may last all day.

Where

For those using nets, water points such as *wadis* are often ideal places to catch goldfinches. The birds approach to drink and the nets close on them. For those using the glue method, forest areas, where thistles and nettle vegetation are abundant, are ideal. According to observers, birds in the most remote and forested areas are particularly vulnerable today, since they have, up to now, not been discovered by poachers.¹⁹

Not surprisingly, according to interviewees, the first populations to be decimated were those close to urban areas. In recent years poachers have had to move further afield.

How much (in the local market)?

The most valuable birds are young males, which are recognisable by the absence of the red plumage on top of their head. These are sold at an average price of €8.50 in local city markets. But 'male or female, we sell everything at the end', said one poacher. If the goldfinch has been trained the price may vary from €45 to €150, depending on how well it has been trained. For some exceptional birds prices in Morocco have reached more than €5 500.²⁰

Trafficking

Interviews with poachers, traffickers, law enforcement officers and ornithologists revealed that once captured goldfinches may be sold domestically to cater for the high local demand, but many are taken on a long, sometimes deadly journey across the Moroccan border to Algeria. A few of those that survive end up in Tunisia.

The largest and most organised networks of goldfinch wholesalers in Morocco are based in the city of Kenitra (70 kilometres north of the capital, Rabat) and, to a lesser extent, in Casablanca. With connections throughout the kingdom and in Algeria, these networks have developed a system of identifying

goldfinch nests, helped by young shepherds in exchange for €25-€35 per nest.

The networks also provide the shepherds with mobile phones with which they can alert them when baby birds hatch and equip poachers with motorcycles in exchange for goldfinches.

Once in the hands of the poachers the goldfinches are placed in boxes in Kenitra, Fes or Meknes before being transported in a convoy that moves from Taza, Oujda and Guercif towards the border. A goldfinch captured in Morocco may fetch up to €45 in Algeria.

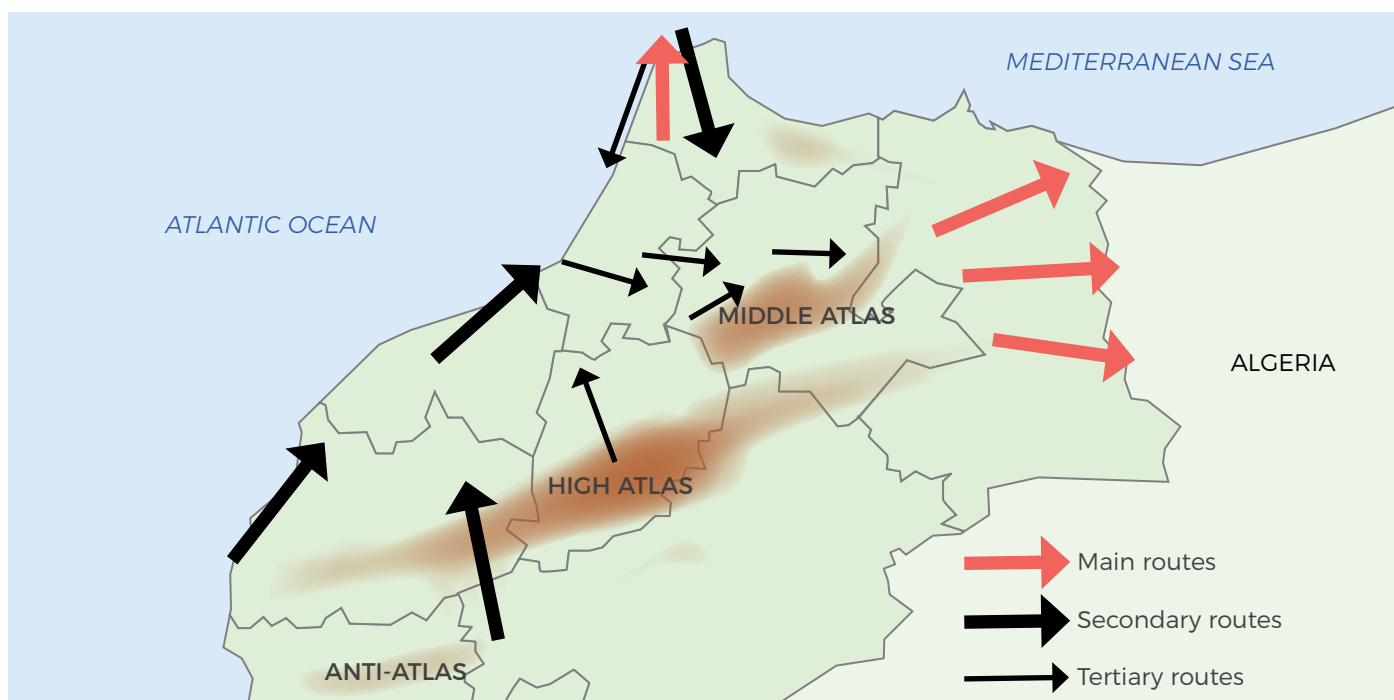
Case study: Tunisia

This case study aims to provide an overview of the demand for goldfinches in Tunisia and its links with the birds trafficked from Morocco.

Background

In Tunisia the cultural practice of domesticating goldfinch dates back at least to the 16th century 'Beys' dynasty, whose members considered the bird to be noble.²¹ Today, in neighbourhoods of Tunis like Sidi Hassine or Kabaria,²² 'every family has at least a

Figure 4: Main routes for goldfinch trafficking in Morocco



Source: Jihane Ben Yahia & Oussama Abaouss

couple of goldfinches; it is for them like raising cats or dogs in Europe'.²³

Although domestication remains an established practice, the almost total absence of the birds from Tunisia has reduced it. Today the bird can only be found in some national parks in three administrative areas – El Kef, Jendouba and Beja F – known as governorates. It is estimated that fewer than 100 birds have survived.²⁴ Uncontrolled urbanisation and forest fires have contributed greatly to reducing the natural habitats of the goldfinch.

In Tunisia the cultural practice of domesticating goldfinch dates back at least to the 16th century 'Beys' dynasty, whose members considered the bird to be noble

While no scientific studies have been conducted in Tunisia to establish why the goldfinch population has declined so dramatically, it is believed that pollution, particularly water pollution, but also the use of pesticides – the birds feed mainly on grains – have played an important role. However, it was intensive poaching in the 1990s and at the start of the 2000s that has made the largest contribution.

... poachers used to come here with nets and used to catch hundreds to thousands of birds at one time. It was horrific. But no one among the authorities used to notice that or react. It included a lot of corruption and we as forest guards could do little to avoid that. Most of the hunters used to come with a lot of money and bribe everyone they met. Some were even police officers or high-ranking officials.²⁵

Channels and routes

The decline in the goldfinch population of Tunisia has led to a reduction in organised criminal activity, but there are still two channels through which demand is satisfied.

Domestic

It is not only goldfinches but small birds in general that are targeted by poachers. There are two views about the level of organisation of the local channel. Some believe that individuals poach and then sell the birds on the local market. Most of the poachers are said to be men from the southern suburbs of Tunis, who spend a week to ten days every one to two months in the forests and parks where some goldfinch can still be found.²⁶ They go there in groups of two to five people, equipped with traps and hiking materials.²⁷ Some may also be involved in illegal woodcutting and plant gathering.

The second view is that behind the scenes there are 'big fish' involved in the poaching and sale of goldfinches.²⁸

The big fish involved in this traffic are not visible, everything is managed by phone. Some are in charge of buying and collecting the goldfinches, while others are in charge of organising supplies to Algeria. This is now a well-established practice. A phone call announces the number of birds that will be delivered and the payment arrives on the other side. It is a well-organised and hierarchical system.²⁹

Transnational

According to one respondent, roughly 80% of goldfinches sold in Tunisia come from Algeria or Morocco.³⁰ However, given the current scarcity of the birds in Algeria,³¹ it is probable that, in fact, they all come from Morocco.

It has been reported that the goldfinches may be moved on commercial transport from Algiers, Constantine and Annaba to the Algerian-Tunisian border, where they are smuggled across and transported to local markets. Given the distances travelled, casualties among the birds are very high.

Both these channels feed the biggest contraband market in Tunis, 'Moncef Bey Souk'. A field visit coupled with various interviews confirmed that between five and ten sellers operate in this market, each of them showing anything from five to 100 birds. The market also operates as a hub for the transfer of birds to markets such as those in Sfax or Sousse.

Pricing

The high resale value of the birds makes them attractive to poachers. In Moncef Bey market, for instance,

goldfinches attract some of the highest prices, fetching from TND200 (€62.50) to TND450 (€130) a bird.

Criminalisation and prosecution

Articles 209 and 210 of the Tunisian Forest Code criminalise the hunting of all passerines but only in 2006 was the code extended to prohibit goldfinch hunting specifically. Perpetrators may be sentenced to a minimum of 16 days in prison and/or a TND1 000 fine. In cases of recidivism the penalty is a maximum of six months in jail and a TND5 000 fine. There is no provision for a reduction in the sentence or for plea bargaining. Because there are so few places in Tunisia in which goldfinches can be found, wildlife authorities are aware that more could be done to protect them, but they seem to find it difficult to act against either poachers or those who traffic birds that have been smuggled into the country.

The problem we are facing is linked to the sanctions set by the law. These are too light. If you are a poacher of goldfinches you risk a fine of TND100 (€30), although each goldfinch poached can be sold for between 250 and 400 dinars. In other countries fines can be thousands of euros and the punishment even includes jail penalties. On the other hand, the law condemns only poachers or traders. Buyers must be included. One cannot own tens or hundreds of protected species with total impunity.³²

Responses and challenges

Like Morocco, Tunisia has no centralised alert system for wildlife crime. However, in 2016 the NGO *Association des Amis des Oiseaux* (AAO)-BirdLife Tunisia launched a website called 'stopbraconnage.com' (Stop Poaching), which enables all citizens to report illegal activities related to endangered or protected species (hunting, poaching, killing, selling, and so on). Although created by AAO, the platform has been handed over to the Department of Hunting and Fishing, which considers it 'an important source of information'. The only other channels of communication are the connections among wildlife authorities at central and regional levels and law enforcement authorities in the field.³³

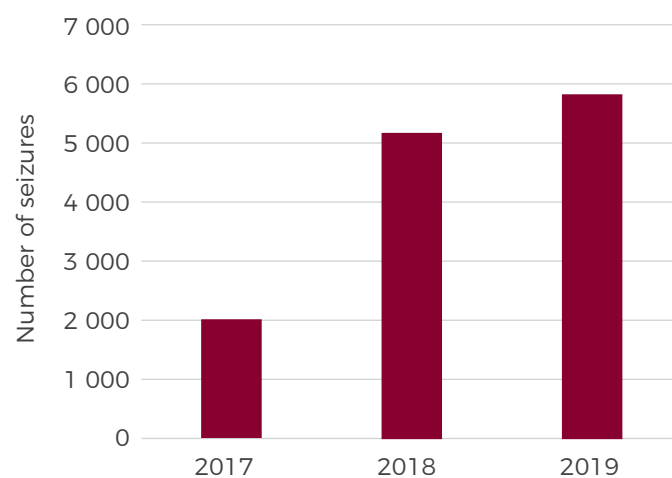
Morocco's policy response

Morocco is well aware of the dangers inherent in the domestication of the goldfinch and has put measures in place to deal with it. Today, three main instruments guarantee the protection of the bird. Since 2006 it has been on the list of protected species; In 2011 it was included in Annexure III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).³⁴ In addition, in 2011 Law No 29-05 on the protection of and control of trade in flora and fauna species was adopted.

At the operational level, in 2017 the High Commissary for Water, Forests and the Fight Against Desertification (HCEFLD) created Wildlife Monitoring and Control Units. In the two years since then it has also created Joint Regional Committees involving wildlife and law enforcement authorities.

The number of seizures of trafficked goldfinches has increased, particularly in the Oriental region (Moroccan-Algerian border) where most of the birds are smuggled to Algeria. In the region of Jerada no goldfinches were seized before 2018 but 3 932 were seized in 2018 and 5 750 in July 2019. In the Oujda region 12 birds were seized in 2016, 1 990 in 2017 and 262 in 2018. In the Berkane region 954 were seized in 2018 and in Trawrit 35 were seized between 2017 and 2018. Since 2016 a total of 12 935 goldfinches have been seized by the authorities in the Oriental region. With the price of a goldfinch averaging about €50 these seizures represent a total of €650 000.

Figure 5: Seizures of goldfinches in the Oriental region



Source: Regional Directorate of the HCEFLD for ENACT

Conclusion

This policy brief has described aspects of the poaching and trafficking of goldfinches in the Maghreb region and the policy responses of wildlife authorities. A key finding is that goldfinch poaching and trafficking have become increasingly organised and now exhibit features associated with transnational organised crime markets. While Morocco's policy responses to the problem are commendable, more needs to be done, especially to enforce preventative strategies.

Morocco's wildlife authorities have demonstrated a will to lead the battle against the trafficking of protected species and this provides a good foundation for greater inter-agency collaboration as well as for a regional initiative to combat the phenomenon. A collective effort is required from all stakeholders in Morocco, Algeria and Tunisia. This, in turn, would require the prioritisation of wildlife crime in North Africa and the mobilisation of resources by national authorities and international partners.

Goldfinch trafficking, like other wildlife crimes in North Africa, should be considered a substantial threat to the region. Understanding the actors involved and their modus operandi may yield insight into other types of transnational organised crime in the region. Each goldfinch trafficked has an impact on the integrity of law enforcement and border agencies, opening the door to other types of trafficking such as drugs or arms.

Legislation must be strengthened and strategies must be devised to engage a deeply entrenched cultural practice. Given the symbolism attached to the goldfinch, wildlife authorities and law enforcement agencies must enter into constructive dialogue with amateur collectors, as individuals or as associations, with a view to encouraging them to support the protection of the species.

Recommendations

The High Commissary for Water, Forests and Fight against Desertification (Moroccan wildlife authorities) should consider:

- Establishing official research partnerships among wildlife authorities, academics and civil society organisations to conduct a comprehensive study of the goldfinch population and explore the prospects for breeding goldfinches in captivity;
- Conducting structured consultations with amateur federations with a view to developing a framework for regulating the domestication of the birds;
- Developing, with the support of civil society organisations, a goldfinch national alert system and leading a national campaign to raise awareness of the dangers associated with the overexploitation of the goldfinch;
- Streamlining the procedures relating to the release of seized goldfinches to ensure a better rate of survival;
- Continuing to enhance cooperation among law enforcement authorities in detecting and prosecuting those involved in activities linked to the illegal trade in goldfinches;
- Developing a national strategy and an action plan to combat the illegal capture of and traffic in goldfinches; and
- Leading a regional initiative to strengthen cooperation between wildlife and law enforcement authorities in Algeria and Tunisia.

Acknowledgements

The author is grateful to the Moroccan authorities, particularly the High Commissary for Water and Forests and Fight against Desertification, for facilitating access during the field visits and for providing original data for the research. Thanks, too, to the Tunisian authorities, particularly the Directorate of Water and Forest at the Ministry of Agriculture. The author also thanks MM Oussama Abaouss (Morocco) and Zied Boussem (Tunisia) for the valuable role they played in the conduct of the field research.

Notes

- 1 For the purposes of this paper Maghreb refers to Algeria, Morocco and Tunisia, not to the political organisation *Union du Maghreb Arabe* (Ethihad al-Maghrib al-Arabi). The denomination North African sub-region refers to the same geographic area.
- 2 The IUCN Red List places the European goldfinch (*carduelis carduelis*) in the 'least concern' category. Lack of data from North Africa made it impossible to assess the prevalence of the bird there.
- 3 Despite the absence of data, all stakeholders interviewed commented on the decline.
- 4 R Khelifa, R Zebza, H Amari, M K Mella, S Bensouilah, Al Laouar & H Mahdjoub, 'Unravelling the drastic range retraction of an emblematic songbird of North Africa: Potential threats to Afro-Palaearctic migratory birds'. *Nature Scientific Reports* 7, April 2017, www.nature.com/articles/s41598-017-01103-w.
- 5 John Lichfield, 'Organised crime finds a new type of contraband: goldfinches', *The Independent*, 6 May 2016, www.independent.co.uk/news/uk/home-news/organised-crime-finds-a-new-type-of-contraband-goldfinches-a7016676.html.
- 6 Khelifa et al, April 2017.
- 7 Description taken from the Royal Society of Birds Protection website, www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/goldfinch/#H5iPgHcTeYQrDm O3.99.
- 8 There are 486 representations of goldfinch in European paintings. See, 'BirdLife International, The Goldfinch in Renaissance art', 2008, <http://datazone.birdlife.org/sowb/casestudy/the-goldfinch-in-renaissance-art>.
- 9 Translation by the author from a France Culture radio podcast, 'Le chant du chardonneret: rituel et secret', 23 June 2018, www.franceculture.fr/emissions/une-histoire-particuliere-un-recit-documentaire-en-deux-parties/le-chant-du-chardonneret-12-un-monde-ceremoniel-et-secret
- 10 Interview with the president of a goldfinch amateurs association, El Jadida, Morocco, April 2019.
- 11 Amateurs reported that during competitions some goldfinch were able to sing up to 15 different bird songs.
- 12 Interview with the president of a goldfinch amateurs association, El Jadida, Morocco, April 2019.
- 13 Imad Cherkaoui, president of the NGO Nature & Solutions produced this map at our request by cross-referencing data from historical sources and the open data platform E-bird in July 2019.
- 14 Ibid.
- 15 e-Bird online data base <https://ebird.org/home>
- 16 Interview, Dr Imed Cherkaoui, academic and president of the NGO Nature & Découvertes.
- 17 Z.Y, 31-year-old single shopkeeper and occasional goldfinch poacher, Kenitra region, Morocco.
- 18 RZ, 36 years old, married, with two children and unemployed, reflects on the capture of goldfinches, region of Rabat, April 2019.
- 19 While we know in which areas goldfinches can still be found in Morocco we have chosen not to reveal this very sensitive information here.
- 20 In Spain a Moroccan goldfinch has been sold for €15 000.
- 21 Interview with Ridha Ouni, president of the Association Exploralis, May 2019. Ouni found documentation at the National Library of Tunisia about a tradition of domesticating exotic animal and other noble species.
- 22 Interviewees often mentioned these neighbourhoods and others, like Sijoumi or Jbel Lahmar, located in the southern suburbs of Tunis, as hotspots of captivity of goldfinches for domestication. They are all densely populated low income areas.
- 23 Interview with a member of a wildlife preservation NGO, Tunis, June 2019.
- 24 The main reason for their prevalence in these areas is that birds seized by authorities are released there. For security reasons, the parks are not named.
- 25 Interview with a forest guard in a national park, Tunisia, June 2019.
- 26 Interview with Ridha Ouni, May 2019.
- 27 Interview with a forest guard, El Kef, Tunisia, June 2019.
- 28 Our interview process in Tunisia started a few days before a terrorist attack on the capital on 27 June. Security considerations prevented us from researching this aspect more deeply.
- 29 Interview with the president of an association of goldfinch amateurs, El Jadida, May 2019.
- 30 Interview with WWF North Africa and a veterinarian specialising in birds, Tunis, June 2019.
- 31 The goldfinch subspecies that still exists, though in very small quantities, is what is called hasnaoui in Arabic.
- 32 Interview with Tunisian wildlife authorities representative, Tunis, June 2019.
- 33 Ibid.
- 34 According to the CITES website, the appendices contain the names of species listed at the request of a party that already regulates trade in them and requires the cooperation of other parties to prevent their illegal or unsustainable exploitation (see Article II, paragraph 3, of the convention). International trade in the species listed is permitted only upon presentation of appropriate permits or certificates (see Article V of the convention) www.cites.org/eng/app/appendices.php.



About the author

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About ENACT

ENACT builds knowledge and skills to enhance Africa's response to transnational organised crime. ENACT analyses how organised crime affects stability, governance, the rule of law and development in Africa, and works to mitigate its impact. ENACT is implemented by the Institute for Security Studies and INTERPOL, in affiliation with the Global Initiative Against Transnational Organized Crime.

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