

## Status and distribution of the Lesser Flamingo *Phoeniconaias minor* in the Maghreb

Abdelwahab Chedad<sup>1</sup>, Nadji Khanfri<sup>2</sup>, Hichem Azafzaf<sup>3</sup>, Claudia Feltrup-Azafzaf<sup>3</sup>, Sami Rebah<sup>3</sup>, Slimane Ayeb<sup>2</sup>, Mohamed Dakki<sup>4</sup>, Rhimou El Hamoumi<sup>4</sup> and Mohamed Amezian<sup>4</sup>

1. Laboratoire de Recherche Agronomie Environnement (LRAE), Université Ahmed Ben Yahia El Wancharissi, Tissemsilt, Algeria (agrochedad@yahoo.fr).
2. Independent Naturalist, Algeria
3. Association "Les Amis des Oiseaux " (AAO/BirdLife en Tunisie), Immeuble ERIS, Bureau N°4, 2ème étage. 14, Rue Ibn El Heni – 2080 Ariana, Tunisia (azafzaf@gmail.com).
4. Groupe de Recherche pour la Protection des Oiseaux au Maroc (GREPOM/BirdLife Morocco), Résidence Oum Hani IV, Imm 22, Apt 3, 11160 Salé, Morocco (dakkisr@gmail.com).

---

**Résumé. Statut et répartition du Flamant nain *Phoeniconaias minor* au Maghreb.** Nous présentons les observations du Flamant nain *Phoeniconaias minor* au Maghreb sur les cinq dernières décades (1974-2025). L'espèce, classée comme Quasi Menacée, est rarement observée en Afrique du Nord, avec la majorité des mentions provenant du Maroc (17) et de la Tunisie (12). Il y a deux zones de distribution clés : l'une dans le nord-est de l'Algérie et l'est de la Tunisie pendant les périodes de migration, et l'autre dans l'ouest du Maroc, principalement en hiver et lors de la migration pré-nuptiale.

**Summary.** Records from the Lesser Flamingo *Phoeniconaias minor* in the Maghreb from the last 50 years (1974–2024) are presented. The species, which is classified as Near Threatened, is sparsely observed in North Africa, with most records occurring in Morocco (17) and in Tunisia (12). Two key distribution areas are highlighted: one in the north-east of Algeria and north and east Tunisia during migration periods, and another in western Morocco, mainly during winter and the pre-nuptial migration.

---

The Lesser Flamingo *Phoeniconaias minor*, classified as Near Threatened (BirdLife International 2018), has a large but decreasing world population, mainly in East Africa (Rift Valley), with smaller populations in southern Africa (Namibia, Botswana, South Africa), Madagascar, West Africa (Mauritania and Senegal), and southern Asia (India and Pakistan). The species is sporadically reported north of the Sahara and even in south-western Europe (del Hoyo *et al.* 2020).

Here we summarize and update the occurrence of the Lesser Flamingo in the Maghreb (Morocco, Algeria and Tunisia), taking into account all published and unpublished records of the past 50 years: see Table 1; sites are mapped in (Fig. 2).

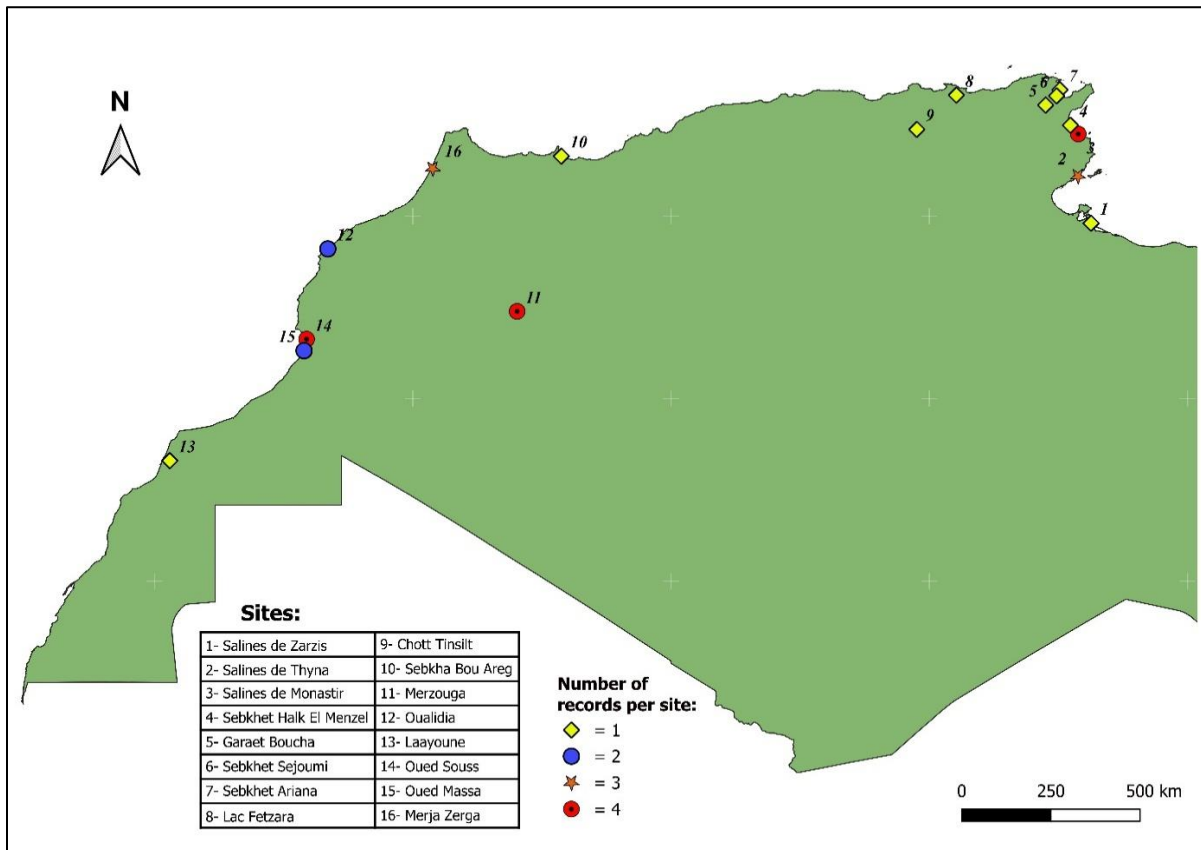
### DISCUSSION

Most of the records of the Lesser Flamingo in the Maghreb come from Morocco (54.84%) and Tunisia (38.71%), with only 6.45% coming from Algeria. There were observations made in sixteen wetlands and most reports are about one bird (Table 1.). Sightings were rare at first, happening every two to six years, but they became more common starting in 2019, especially in Tunisia, where they peaked in 2021 with four records. It is important to note that there were no observations between 1998 and 2009 (Fig. 3).

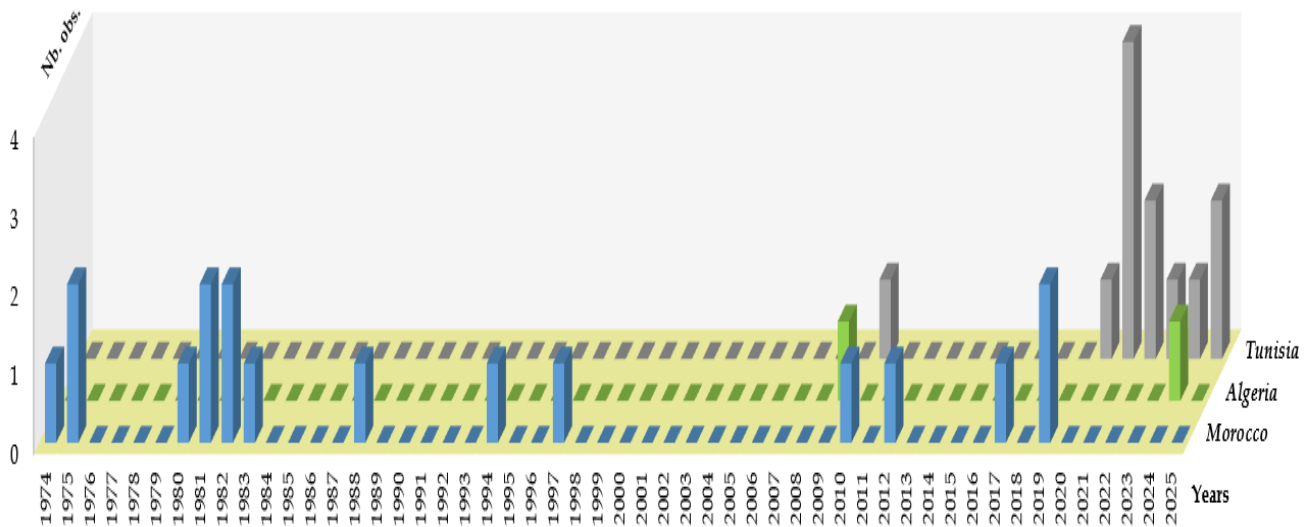
In terms of seasonal distribution, 46.7% of the records were made in spring, 26.7% in winter, and 20% in autumn. Only three were made in summer. This means that about half of the Maghreb records happen after the breeding season (spring to early summer) for African populations, which usually breed between October and February. Consequently, it is likely that numerous individuals engage in northward post-breeding migrations that align with the pre-breeding migrations of Palearctic species, including Greater Flamingos. However, the occurrence in autumn and winter is not as well understood, which could indicate that local environmental factors or weather-related dispersal are responsible.



**Figure 1.** Lesser Flamingo *Phoeniconaias minor*, adult, with Greater Flamingos *Phoenicopterus roseus*, Oued Souss estuary, Morocco, 1 January 2019 (Stefan Werner).



**Figure 2.** Distribution of the Lesser Flamingo *Phoeniconaias minor* records in the Maghreb (Morocco, Algeria and Tunisia) in 1974–2025.



**Figure 3.** Annual frequency of the Lesser Flamingo *Phoeniconaias minor* records in the Maghreb.

Moreover, the Lesser Flamingo is known for its erratic and wide-ranging dispersal behavior, which sometimes leads individuals far from their breeding colonies. Therefore, it is likely that Moroccan records relate to birds from the West African colony the closest documented breeding region whereas Tunisian birds may derive from East African populations. This hypothesis aligns with previous evidence of extensive migration between Kenya and India (Parasharya *et al.*, 2015), demonstrating the species' remarkable mobility.

The species was seen several times at Merzouga, Oued Souss, Salines de Monastir, Salines de Thyna, and Merja Zerga, but only twice in Oualidia end Oued Massa and only once at each of the other nine sites. These results show that the species prefers estuarine and coastal saltpan ecosystems, but it can also be found at moderately high inland sites like Chott Tinsilt (786 m) and Merzouga (707 m). Shallow, salty, and sometimes wet areas are good places for birds to feed and rest, which may be why they are used so often by the Lesser Flamingo.

Geographically, two main groups of places that stand out: (1) Tunisia and north-eastern Algeria, and (2) Morocco, particularly its coastal wetlands. The apparent lack of records from Algeria is probably due to biogeographic factors rather than insufficient monitoring because most of Algeria is not actually on the main migratory flyways that connect the Western Palearctic with sub-Saharan Africa. These migration corridors typically pass through lowlands south of the Strait of Gibraltar, which are good for migratory birds that fly long distances.

In conclusion, although the dataset is still limited, the distribution of the Lesser Flamingo in the Maghreb gives useful initial information about how it spreads. The species consistently prefers shallow, saline wetlands both coastal and inland that are rich in food resources and strategically located along key migratory pathways. These ecosystems seem to be very important for the species' movements in the Maghreb and their overall survival.

#### ACKNOWLEDGEMENTS

Most of these observations of the Lesser Flamingo were made while monitoring the avifauna of wetlands within the framework of the international waterbird census (IWC) and other conservation projects in the Maghreb. We would like to extend our special thanks to Moujib Gabous (Tunisia), Oussama Hadj Issa (Algeria), Stefan Werner (Switzerland), for sharing their observations and/or photos with us.

**Table 1.** Records of Lesser Flamingos *Phoeniconaias minor* in the Maghreb in 1974–2025.

No	Date	Site	Number of birds	Wetland type	Coordinates		References
<b>Morocco</b>							
1	1 Sep 1997	Laâyoune (Saquiât Al Hamra)	1	Fluvial guelta	27°09'55.26"N	13°11'46.85"E	Childress (2004), Childress & Hughes (2007)
2	Sep 1975	Merja Zerga (Rharb)	?	Atlantic Lagoon	34°50'58.78"N	06°16'29.18"E	Thévenot <i>et al.</i> (2003)
3	9 May 1981	Merja Zerga (Rharb)	1				Thévenot <i>et al.</i> (1982)
4	15 Jul 1982	Merja Zerga (Rharb)	1				Thévenot <i>et al.</i> (2003)
5	8 May 1975	Merzouga (Tafilalt)	3	Intermittent daya	31°05'39.05"N	04°03'05.67"E	Thévenot <i>et al.</i> (2003)
6	5 Apr 1988	Merzouga (Tafilalt)	1				Thévenot <i>et al.</i> (2003)
7	3–4 May 2012	Merzouga (Tafilalt)	1				Bergier <i>et al.</i> (2013)
8	18 Apr 2019	Merzouga (Tafilalt)	1				Bergier <i>et al.</i> (2021)
9	30 Apr-13 May 2010	Oualidia (Doukkala)	1	Atlantic Lagoon	32°44'12.90"N	09°02'8.95"E	Bergier <i>et al.</i> (2012), Sjøgaard Hansen (2010)
10	16 Oct 2017	Oualidia (Doukkala)	1	Atlantic Lagoon			Rihane <i>et al.</i> (2017)
11	Sep 1974	Oued Massa (Souss)	?	Estuarine guelta	30°03'35.73"N	09°39'41.72"E	Thévenot <i>et al.</i> (2003)
12	25 Mar 1981	Oued Massa (Souss)	?	Estuarine guelta			Thévenot <i>et al.</i> (1982)
13	26 Nov 1980	Oued Souss (Souss)	2	River estuary	30°21'45.10"N	09°35'40.08"E	Thévenot <i>et al.</i> (1981)
14	18 Jan 1983	Oued Souss (Souss)	?	River estuary			Thévenot <i>et al.</i> (1983)
15	7 Oct 1994	Oued Souss (Souss)	?	River estuary			Thévenot <i>et al.</i> (2003)
16	1–2 Jan 2019	Oued Souss (Souss)	1	River estuary	30°21'45.10"N	09°35'40.08"E	Varga <i>et al.</i> (2019), Fareh <i>et al.</i> (2020)
17	14 Apr 1982	Sebkha Bou Areg (Oriental)	?	Mediterranean Lagoon	35°10'29.09"N	2°53'12.84"E	Thévenot <i>et al.</i> (2003)
<b>Algeria</b>							
1	31 Dec 2009	Lac Fetzara (Annaba)	1	Lake	36°46'47.01"N	07°30'44.59"E	Merzoug <i>et al.</i> , (2010)
2	9 May 2024	Chott Tinsilt (Oum-El-Bouaghi)	1	Chott	35°52'43.77"N	06°28'19.98"E	N. Khanfri, pers. obs.
<b>Tunisia</b>							
1	29 Jan 2010	Salines de Thyne (Sfax)	2	Salt works	34°39'10.00"N	10°42'56.00"E	Azafzaf <i>et al.</i> (2010)
2	Dec 2020	Salines de Monastir (Monastir)	1	Salt works	35°45'31.53"N	10°43'16.58"E	Hamza <i>et al.</i> (2024)
3	Jan 2021	Salines de Thyne (Sfax)	1	Salt works	34°39'10.00"N	10°42'56.00"E	Ouni <i>et al.</i> (2024)
4	18 Apr 2021	Salines de Thyne (Sfax)	1	Salt works			Ouni <i>et al.</i> (2024)
5	1 May 2021	Sebkhet Ariana (Ariana)	1	Mediterranean Lagoon	36°55'16.36"N	10°14'20.94"E	H. Azafzaf & S. Zaarad, pers. obs.
6	3 Jan 2022	Garaet Boucha (Zaghuan)	1	Garaet	36°31'11.69"N	09°51'46.53"E	H. Azafzaf pers. obs.
7	22 Jan 2022	Salines de Monastir (Monastir)	1	Salt works	35°45'32.26"N	10°46'29.28"E	H. Azafzaf, pers. obs.
8	7 Jun 2021	Salines de Zarzis (Medenine)	1	Salt works	33°24'44.11"N	11°03'31.60"E	Ouni <i>et al.</i> (2024)
9	Mar 2023	Salines de Monastir (Monastir)	1	Salt works	35°45'32.26"N	10°46'29.28"E	Ouni <i>et al.</i> (2024)
10	9 Apr 2024	Sebkhet Sejoumi (Tunis)	1	Mediterranean Lagoon	36°45'40.15"N	10°09'02.12"E	H. Azafzaf, pers. obs.
11	23 Apr 2025	Sebkhet Halk El Menzel (Sousse)	1	Mediterranean Lagoon	36°00'04.17"N	10°30'37.32"E	Azafzaf <i>et al.</i> (2025)
12	24 Jun 2025	Salines de Monastir (Monastir)	2	Salt works	35°45'32.26"N	10°46'29.28"E	Hamza <i>et al.</i> submitted



**Figure 4.** Lesser Flamingo *Phoeniconaias minor*, adult, with four Greater Flamingos *Phoenicopterus roseus*, Chott Tinsilt, Algeria, 9 May 2024 (Nadji Khanfri).



**Figure 5.** Lesser Flamingo *Phoeniconaias minor*, adult, with Greater Flamingos *Phoenicopterus roseus*, Sebkhet Sejoumi, Tunisia, 9 April 2024 (Sami Rebah)

## REFERENCES

- Azafzaf, H., Dlensi, H. & Feltrup-Azafzaf, C. 2010. *Première observation du Flamant nain Phoenicopterus minor en Tunisie*. Alauda 78, 330.
- Azafzaf, H., Rebah, S., Aissa, K., BenBrahim, A., Feltrup-Azafzaf, C. 2025. *Reproduction réussie du Flamant rose Phoenicopterus roseus à Sebket Halk el Menzel (Tunisie)*. Alauda 93, 4, 313-318.
- Bergier, P., Franchimont, J., Thévenot, M. & CHM. 2012. *Les oiseaux rares au Maroc*. Rapport de la Commission d'Homologation Marocaine numéro 17 (2011). Go-South Bull. 9, 3–32.
- Bergier, P., Franchimont, J. & CHM. 2013. *Les oiseaux rares au Maroc*. Rapport de la Commission d'Homologation Marocaine numéro 18 (2012). Go-South Bull. 10, 1–16.
- Bergier, P., Maire, B., Laïdi, K., Ennoury, A., Rihane, A., Franchimont, J. & CHM. 2021. *Les oiseaux rares au Maroc*. Rapport de la Commission d'Homologation Marocaine, numéro 26 (2020). Go-South Bull. 18, 63–88.
- BirdLife International. 2018. *Species factsheet: Lesser Flamingo Phoeniconaias minor*. <https://datazone.birdlife.org/species/factsheet/lesser-flamingo-phoeniconaias-minor> (accessed 28/07/2024).
- Childress, B., Nagy, S. & Hughes, B. 2007. *International Single Species Action Plan for the Conservation of Lesser Flamingos (Phoeniconaias minor)*. Bonn: AEWA Technical Series, 34.
- Childress, B. 2004. *Remarkable Lesser Flamingo recovery*. Lanioturdus 37, 3–4.
- Crick, H. Q. P. 2004. *The impact of climate change on birds*. Ibis 146, 48–56.
- Dakki, M. 2022. *Classification écologique des zones humides du Maroc*. Trav. Inst. Sci., Rabat, Série Générale, 123p+Annexe 15p.
- del Hoyo, J., Boesman, P. F. D., Garcia, E. F. J., Kirwan, G. M. 2020. *Lesser Flamingo (Phoeniconaias minor)*, version 1.0. In del Hoyo, J., Elliott, A., Sargatal, J., Christie, D. A. & de Juana, E. (eds.). *Birds of the World*. Ithaca, NY: Cornell Lab of Ornithology. <https://doi.org/10.2173/bow.lesfla1.01> (accessed 27/02/2025)
- Fareh, M., Maire, B., Laïdi, K., Ennoury, A., Rousselon, K., Franchimont, J. & CHM. 2020. *Les oiseaux rares au Maroc*. Rapport de la Commission d'Homologation Marocaine numéro 25 (2019). Go-South Bull. 17, 104–120.
- Greenwood, P. J. & Harvey, P. H. 1982. *The natal and breeding dispersal of birds*. Annu. Rev. Ecol. Syst. 13, 1–21.
- Hamza, F., Dlensi, H., Elghoul, M., Yacoubi, L., Hammouda, N., Ghlis, A., Jemaa, B., El Golli, M. O. & Chokri, M. A. 2024. *Diversité des oiseaux d'eau hivernants dans les zones humides tunisiennes*. Go-South Bull. 21, 1–13.
- Lomolino, M. V., Riddle, R. B. & Brown, J. H. 2006. *Biogeography*, Third edn. Sunderland: Sinauer Associates.
- Merzoug, A., Rouibi, A. & Houhamdi, M. 2010. *Première observation du Flamant nain Phoenicopterus minor en Algérie*. Alauda 78, 26.
- Observatoire Tunisien de l'Environnement et du développement durable (OTED) 2018. *Rapport sur la Gestion Durable des Zones Humides En Tunisie*. République Tunisienne. Ministère des Affaires Locales et de l'Environnement.
- Ouni, R., El Golli, M. O., Dlensi, H., Jemaa, B., Hamrouni, N., Ben Abda, W. & Nefla, A. 2024. *Données récentes sur l'avifaune de la Tunisie*. Alauda 92, 159–172.
- Parasharya, B. M., Rank, D. N., Harper, D. M., Crosa, G., Zaccara, S., Patel, N. & Joshi, C. G. 2015. *Long-distance dispersal capability of Lesser Flamingo Phoeniconaias minor between India and Africa: genetic inferences for future conservation plans*. Ostrich 86, 221–229.
- Rihane, A., El Hamoumi, R., Bergier, P. & Thévenot, M. 2017. *Un Flamant nain Phoeniconaias minor à Oualidia ; synthèse des observations marocaines*. Go-South Bull. 14, 230–234.
- Søgaard Hansen, J. 2010. *eBird checklist*: <https://ebird.org/checklist/S80348553>. Ithaca, New York (accessed 13/05/2025).
- Thévenot, M., Berger, P. & Beaubrun, P. C. 1981. *Compte-rendu d'ornithologie marocaine, année 1980*. Doc. Inst. Sci., Rabat 6.
- Thévenot, M., Beaubrun, P. C., Baouab, R. E. & Bergier, P. 1982. *Compte-rendu d'ornithologie marocaine, année 1981*. Doc. Inst. Sci., Rabat 7.
- Thévenot, M., Vernon, R. & Bergier, P. 2003. *The Birds of Morocco: An Annotated Checklist*. BOU Checklist No. 20. Tring: British Ornithologists' Union & British Ornithologists' Club.
- Varga, K., Henseler, D., Werner, S. & Wüst, R. 2019. *Lesser Flamingo at Oued Souss, Morocco*. <https://magornitho.org/2019/03/lesser-flamingo-morocco/> (accessed 13/05/2025).
- Wolf, B. 2000. *Global warming and avian occupancy of hot deserts; a physiological and behavioral perspective*. Rev. Chil. Hist. Nat. 73, 395–400.