

# RECENT NESTING OF THE RED-CRESTED POCHARD *NETTA RUFINA* (PALLAS, 1773) CONFIRMED IN ALGERIA

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The El Kala wetland complex, located in the far northeast of Algeria, provides ideal ecological conditions for wintering migratory waterbirds. Among these sites, the Mekhada marsh, designated a Ramsar site in 2004, stands out as one of the most biologically diverse wetlands in the region. It supports several emblematic waterbird species, including the Red-crested Pochard (*Netta rufina*), which is the focus of this study. This species is rarely observed in Algerian wetlands and typically occurs in very small numbers. In June 2025, an exceptional observation was made of a female Red-crested Pochard accompanied by her ducklings at the Mekhada marsh. To our knowledge, this represents the first documented breeding record of *Netta rufina* in the El Kala wetland complex.

**Key words:** *Netta rufina*, Nesting, Wetlands, Mekhada marsh, Algeria

**Boutabia, L., El Hadi Derguini, M. & Telailia, S.: Nedavno gniježđenje patke gogoljice *Netta rufina* (Pallas, 1773) potvrđeno u Alžiru. Nat. Croat., Vol. 34, No. 2, 387–393, Zagreb, 2025.**

Močvarni kompleks El Kala, smješten na krajnjem sjeveroistoku Alžira, pruža idealne ekološke uvjete za zimovanje ptica močvarica. Među tim lokacijama kao jedna od biološki najraznolikijih močvara u regiji ističe se močvara Mekhada, proglašena Ramsarskim područjem 2004. godine. Tu obitava nekoliko važnih vrsta ptica močvarica, uključujući patku gogoljicu (*Netta rufina*) koja je u središtu ovog rada. Ta se vrsta rijetko opaža u alžirskim močvarama i obično se javlja u vrlo malom broju. U lipnju 2025. godine na močvari Mekhada zabilježeno je izuzetno opažanje ženke patke gogoljice u pratnji mladunaca. Prema našim spoznajama, to je prvi dokumentirani zapis o gniježđenju vrste *Netta rufina* u močvarnom kompleksu El Kala.

**Key words:** *Netta rufina*, gniježđenje, vlažna staništa, močvara Mekhada, Alžir

## INTRODUCTION

The Red-crested Pochard (*Netta rufina*) is a diving duck belonging to the family Anatidae, primarily native to Eurasia. Easily recognizable by its bright plumage and striking red bill, the Red-crested Pochard primarily inhabits deep inland lakes and rivers bordered by reeds, in both freshwater and brackish environments (DEL HOYO *et al.*, 1992), as

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well as saline and alkaline lagoons (KEAR, 2005). It is also found, though less frequently, in estuaries, river deltas, and other sheltered coastal habitats (DEL HOYO *et al.*, 1992), especially during migration periods (MADGE & BURN, 1988) or wintering (SCOTT & ROSE, 1996). The diet of the Red-crested Pochard primarily consists of roots, seeds, and vegetative parts of aquatic plants. However, it occasionally feeds on aquatic invertebrates, including molluscs, as well as amphibians and small fish (JOHNSGARD, 1978).

The Red-crested Pochard exhibits flexible breeding behaviour, nesting either as isolated pairs or in small colonies, often in association with other waterbird species. The breeding season of the Red-crested Pochard extends from April to July. Nesting sites are typically located in dense emergent vegetation, such as reed beds or marshy areas, near shallow freshwater bodies. The species prefers areas with abundant aquatic vegetation, which provides both shelter and a rich feeding habitat for broods. Clutch size generally ranges from 6 to 12 eggs, and the female alone incubates the eggs and tends the young. Breeding success is closely linked to the availability of undisturbed wetland habitats, making the species particularly sensitive to water level fluctuations and habitat degradation during the breeding season (JONSSON, 2008).

The Red-crested Pochard is a species dependent on wetlands, whose habitat quality directly influences its survival and reproduction. The main environmental threats to this species include habitat degradation and hunting (DEFOS DU RAU, 2002; KEAR, 2005). Destruction and fragmentation of wetlands caused by urbanization, intensive agriculture, or drainage affect nesting sites and food resources of the Red-crested Pochard. In particular, water quality degradation has a significant negative impact. It leads to a reduction in the abundance of Characeae, a group of algae that forms an essential part of the species' diet (RUITERS *et al.*, 1994; VAN DEN BERG & COOPS, 1999). According to KELLER (2000), the presence of these algae may even support the species' expansion in Europe. It is also worth noting that the Red-crested Pochard tends to select habitats rich in reeds (*Phragmites* spp.) and other helophytes, which provide both food resources and suitable nesting sites (SIBLET, 2000).

## MATERIALS AND METHODS

As part of the regular naturalist monitoring programme conducted at the Mekhada marsh (minimum twice monthly), the presence of a pair of Red-crested Pochards was documented in June 2025, located along the wadi traversing the site. This uncommon observation raised the possibility of local breeding. Consequently, an intensified monitoring was initiated, focusing specifically on this section of the wadi, with the objective of ensuring rigorous surveillance through increased survey frequency and detailed behavioural observations (courtship displays, nest construction, incubation).

The El Kala wetland complex belongs to the northeastern Tellian Atlas. It is bordered to the west by the Seybouse River, to the north by the Mediterranean Sea, to the south by the Medjerda Mountains, and to the east by the Kroumirie Mountains. Runoff water from several basins and sub-basins tends to accumulate there, resulting in the presence of multiple wetland habitats of various types that form the large El Kala wetland complex, which encompasses an extensive system of lakes (Tonga, Oubeira, El Mellah, Lac des Oiseaux) and marshes such as the Mekhada (DE BELAIR, 1990) (Fig. 1).

Covering an area of 8,900 hectares, the Mekhada marsh (36°47'05"N, 08°00'27"E) is limited to the north by a coastal dune, to the east by the agro-pastoral plain of Lac des Oiseaux, to the south by the foothills of the eastern Numidia Mountains and to the

west by Oued Bounamoussa which flows into the plain of Ben M'hidi (BENDJEDDOU *et al.*, 2018). The marsh is a predominantly freshwater wetland located in the alluvial basin of the Mafragh plain. Downstream, part of the marsh becomes brackish where the water flows into the Mediterranean Sea through a narrow opening (BOUMEZBEUR, 2003). Three Oueds flows into Mekhada marsh: Bounamoussa to the west, Kebir to the north and Bouhalala to the northwest. It is also drained by dunes percolation (DE BELAIR & BENCHEIKH-LEHOCINE, 1987).

The basin has a depth ranging from 50 centimeters to 1 meter. The emergent vegetation is dominated by hydrophilic species such as *Phragmites communis*, *Typha angustifolia*, and *Glyceria fluitans*, which cover more than 80% of the surface area (DE BELAIR, 1999). This habitat provides significant cover for a variety of aquatic bird species (BOURAFI *et al.*, 2018).

From a faunal perspective, the Mekhada marsh is a site of major importance for wintering waterbirds (CHEMSEDINE *et al.*, 2025). It regularly hosts species such as the Common Coot (*Fulica atra*), Greylag Goose (*Anser anser*), Eurasian Wigeon (*Anas penelope*), GADWALL (*Anas strepera*), and Western Reef Heron (*Egretta gularis*) (BOUMEZBEUR, 2003; TELAILIA *et al.*, 2018). The site is also visited by rare raptors, including the Lesser Spotted Eagle (*Clanga pomarina*) and the Greater Spotted Eagle (*Clanga clanga*) (TELAILIA *et al.*, 2020).

The marsh was classified as RAMSAR in 2003 (BOUMEZBEUR, 2003) for criteria 2 and 5. It also corresponding the Important Bird Area (IBA) criteria A1, A4i, and A4III (COULTHARD, 2001). Criterion 2 concerns vulnerable or endangered species, criterion 5 concerns the presence of at least 20 000 birds. Criterion A1 concerns sites that host a significant number of globally endangered species, or other species which are in conservation concern. A4i host or are presumed to regularly host 1% or more of the biogeographical population of a gregarious species of waterbird. A4III host or are presumed to regularly accommodate at least 20 000 waterfowl, or at least 10 000 pairs of seabirds belonging to one or more species (BENDJEDDOU *et al.*, 2018).



Fig. 1. Location of the study site, Mekhada marsh, in northeastern Algeria (© A. Bouchekeker, 2021).

## RESULTS

During a routine survey at the Mekhada marsh in late spring 2025, the authors recorded the first confirmed observation of a breeding Red-crested Pochard in the area. On June 3, 2025, a visit to the site confirmed the species' breeding status: a female was observed accompanied by six juveniles (Fig. 2).

The female, accompanied by her juveniles, appeared to be in good physical condition. The group spent the majority of the day foraging and swimming. To our knowledge, this represents the first documented case of reproductive activity in eastern Algeria.



**Fig. 2.** Female Red-crested Pochard (*Netta rufina*) with her ducklings, Mekhada marsh, June 9, 2025 (© M.E.H. Derguini)

## DISCUSSION

The distribution range of the Red-crested Pochard is primarily composed of two major migratory populations. The eastern population extends from southwestern Russia to Mongolia, while the western population is centered in Europe, ranging from the Netherlands to Romania via northern Italy. In addition, small resident or partially migratory populations are found in England and on the Iberian Peninsula. During the winter period, the species is observed as far south as North Africa, the Middle East, and the Indian subcontinent (SALVADOR *et al.*, 2022).

The main breeding populations of the Red-crested Pochard in the Western Palearctic are found in southern Russia (5,500 to 9,000 pairs), Spain (5,400 to 8,600 pairs), Tur-

key (1,000 to 5,000 pairs), and Romania (1,000 to 3,000 pairs). Elsewhere, the number rarely exceeds a few dozen pairs (TUCKER & HEATH, 1994).

According to the most recent IUCN Red List of Threatened Species, *Netta rufina* is categorized as “Least Concern” (BIRDLIFE INTERNATIONAL, 2025). In Algeria, it is considered a rare wintering diving duck (ISENMANN & MOALI, 2000). Similarly, in Tunisia, the species is regarded as a rare winter visitor (ISENMANN *et al.*, 2005). In Morocco, Red-crested Pochards is classified as vulnerable during the wintering season (EL-AGBANI & QNINBA, 2011).

In Algeria, *Netta rufina* have been observed in several wetland areas. At Garaet Hadj-Tahar, part of the Guerbes-Sanhadja wetland complex in Skikda Province, a pair was recorded for the first time in December 2008 (METALLAOUI & MERZOUG, 2009). At Lac des Oiseaux in El Tarf Province, 9 individuals were documented in 2020 (HOUHAMDJ, 2020), and around 104 adults—including 63 males and 41 females—were counted in January 2023 (BAALIA *et al.*, 2023). In western Algeria, smaller numbers have been reported at Merdja Sidi Abed (October 1966), Relizane (January 1978), Golea (January 1975) and Macta (January 1978) (ISENMANN & MOALI, 2000).

In Tunisia, Red-crested Pochards is generally observed singly or in small groups (BLANCHET, 1955). More recent records include one male at Makthar on 23 February 2001, a few individuals at the Sidi Jdidi Dam on 27 November 2002, and five individuals (3 males and 2 females) at Chiba Dam (Cap Bon) on 14 January 2015 (ISENMANN *et al.*, 2005; BIRDING TUNISIA, 2015).

In Morocco, *Netta rufina* is known to winter in small numbers, with only a few hundred birds present during the wintering period (EL AGBANI & QNINBA, 2011).

The Red-crested Pochard has a long-established breeding presence in Algeria. Early records date back to 1913 at Fetzara lake (ZEDLITZ, 1914) and at Halloula lake in Mitidja plain, prior to its drainage (HEIM DE BALSAC & MAYAUD, 1962). A possible, though unconfirmed, nesting was reported at Dayet El-Ferd, Tlemcen province (OUDIHAAT *et al.*, 2017).

In Morocco, breeding has been documented in several wetlands, including the Smir and Bas Loukkos marshes, Douyiet, Merja Bargha, Dayet Roureg, Merja Fouarate, Sidi Boughaba, the estuary of Oued El Maleh, and Hessar Dam (RIHANE & EL HAMOUMI, 2014). The species appears to be expanding its breeding range (QNINBA *et al.*, 2008), and long-term monitoring at a Ramsar site has shown an increase in females with ducklings over a ten-year period (CHERKAOUI *et al.*, 2013).

## CONCLUSION

In the face of the numerous threats affecting the Red-crested Pochard, targeted and integrated conservation measures are essential to ensure the species' survival at the regional scale, particularly in North Africa. The protection and effective management of key sites, such as Mekhadia and Lac des Oiseaux, constitute a priority, as does the restoration of degraded wetlands to maintain their ecological functionality. Safeguarding natural hydrological regimes and implementing sustainable water management practices for agricultural, urban, and industrial uses are indispensable to securing adequate freshwater supplies for wetland ecosystems. Finally, regular monitoring of populations and breeding sites, together with transboundary cooperation among countries of the western Mediterranean basin through joint research and conservation

programmes, represent key actions to enhance conservation effectiveness and to promote the protection of migratory species such as *Netta rufina*.

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## REFERENCES

- BAALIA, S., ZIANE, N., AZARNIA, S. & BOULAHBAL, R., 2023: New Data on the Staging and Winter Behavior of the Red-Crested Pochard *Netta rufina* in the Lac des Oiseaux (North-Eastern Algeria). *Egyptian Journal of Aquatic Biology & Fisheries Zoology* 27(5), 1431-1447.
- BENDJEDDOU, R., BENYACCOUB BRAHMIA, Z. & BENYACCOUB, S., 2018: Function of a temporary wetland for wintering anatidea and coot: Mekhada marsh (North East Algeria). *Ecology, Environment and Conservation* 24(4), 1482-1491.
- BLANCHET, A., 1955: Les Oiseaux de Tunisie. Mémoires de la Société des Sciences Naturelles de Tunisie. Ed. 89p.
- BIRDING TUNISIA, 2015: Observations de la faune aviaire en Tunisie. Données accessibles sur: <https://birdingtunisia.org>
- BIRDLIFE INTERNATIONAL, 2025: *Netta rufina*. The IUCN Red List of Threatened Species 2025: e.T22680348A280995672. <https://dx.doi.org/10.2305/IUCN.UK.2025-2.RLTS.T22680348A280995672.en>
- BOUMEZBEUR, A., 2003: Fiche descriptive sur les zones humides Ramsar\_ Marais de la Mekhada, Wilaya d'El Tarf. Direction Générale des Forêts. Alger. 8 p.
- CHEMSEDINE, N., KHAMES G. Y., CHABANI S., MEDERBAL K. E., BAKHOUCHE B., SAADI A., HENNOUNI M. A., BOUTABIA L., SAKRAOUI F. & TELAILIA S., 2025: Seasonal dynamics and habitat use by shorebirds in Mekhada marsh, a mediterranean biodiversity hotspot. *Egyptian Journal of Aquatic Biology and Fisheries* 29(5), 3201-3217. [doi:10.21608/ejabf.2025.411107.6362](https://doi.org/10.21608/ejabf.2025.411107.6362)
- CHERKAOUI, I., DAKKI, M., LAHROUZ, S. & HANANE, S., 2013: Dix années de suivi des anatidés nicheurs sur le lac de Sidi Boughaba (Nord-ouest Marocain): Situation, tendances d'évolution et perspectives de recherche. *Revue d'Écologie (La Terre et La Vie)* 68(2), 167-180.
- COULTHARD, N.D., 2001: Algeria. In L.D.C. Fishpool & M.I. Evans (eds.), *Important Bird areas in Africa and associated islands: priority sites for conservation*, pp. 51-70. Bird Life Conservation Series. N° 11, Pisces Publications and Bird Life International, Newsbury and Cambridge, UK.
- DE BÉLAIR, G., 1990: Structure, fonctionnement et perspectives de gestion de quatre écosystèmes lacustres et marécageux (El Kala, Est algérien) Thèse de Doctorat, Université de Montpellier II.
- DE BÉLAIR, G. & BENCHEIKH-LEHOCINE M., 1987: Composition et déterminisme de la végétation d'une plaine côtière marécageuse: La Mafragh (Annaba, Algérie). *Bulletin d'Ecologie* 18, 393-407.
- DEFOS DU RAU, P., 2002: Elements for a red-crested pochard (*Netta rufina*) management plan. *Game and Wildlife Science* 19(2), 89-142.
- DEL HOYO, J., ELLIOT, A. & SARGATAL, J., 1992: Handbook of the Birds of the World, vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
- EL AGBANI, M.A. & QNINBA, A. 2011: Les oiseaux d'intérêt patrimonial au Maroc. Publications du GREPOM, Rabat 3, 55 pp.
- HEIM DE BALSAC, H. & MAYAUD, N., 1962: Les oiseaux du Nord-Ouest de l'Afrique. Ed. Lechevalier, Paris. 488 p.
- ISENMANN, P. & MOALI, A., 2000: Oiseaux d'Algérie - Birds of Algeria. Ed. SEOF (Société d'Etudes Ornithologiques de France), Paris. 336p.
- ISENMANN, P., GAUTHIER, T., EL HILL, A., AZAFZAF, H., DIENSI, H. & SMART, M., 2005: Oiseaux de Tunisie - Birds of Tunisia. Ed. SEOF (Société d'Etudes Ornithologiques de France), Paris. 432 p.

- JOHNSGARD, P.A., 1978: Ducks, geese and swans of the World. University of Nebraska Press, Lincoln and London.
- JONSSON, L., 2008: Les oiseaux d'Europe, d'Afrique du Nord et du Moyen-Orient. Ed. Nathan, Paris. 557 p.
- KEAR, J., 2005: Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
- KELLER, V., 2008: Winter distribution and population change of Red-crested Pochard *Netta rufina* in southwestern and central Europe. *Bird Study* 47, 176-185.
- MADGE, S. & BURN, H., 1988: Wildfowl. Christopher Helm, London.
- METALLAOUI, S. & MERZOUQ, A., 2009: Observation hivernale de la Nette rousse *Netta rufina* près de Skikda (Algérie). *Alauda* 77(1), 57.
- OUDIHAT, K., MOULAÏ, R. & HOUHAMD, M., 2017: Phénologie et budget temps diurne en période hivernale de la Nette rousse *Netta rufina* et de l'Erismaure à tête blanche *Oxyura leucocephala* à Dayet El-Ferd (Nord-ouest algérien). *Bulletin de la Société Zoologique de France* 142(2), 49-62.
- QNINBA, A., RGUIBI IDRISSE, H., HIMMI, O., BENHOUSA, A., EL AGBANI, M.A. & THÉVENOT, M., 2008: Nouveaux cas de nidification d'oiseaux dans le complexe de zones humides du Bas Loukkos (Nord-Ouest du Maroc). *Bull. Inst. Scient.* 30, 45-50.
- RIHANE, A. & EL HAMOUMI, R., 2014: Reproduction de la Nette rousse *Netta rufina* près de Mohammedia et Casablanca (Maroc atlantique). *Go-South Bull.* 11, 91-98.
- RUITERS, P.S., NOORDHUIS, R. & VAN DEN BERG, M.S., 1994: Stoneworts account for fluctuations in Red-crested Pochard *Netta rufina* numbers in the Netherlands. *Limosa* 67(4): 147-158.
- SCOTT, D.A. & ROSE, P.M., 1996: Atlas of Anatidae populations in Africa and western Eurasia. Wetlands International, Wageningen, Netherlands.
- SALVADOR, A., AMAT, J. A. & ÖZGENCIL, I. K., 2022: Red-crested Pochard (*Netta rufina*), version 2.0. In: Birds of the World (S. M. Billerman, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.recpoc.02>
- SIBLET, J.-P., 2000: Habitats de nidification de la Nette rousse. *La Revue de l'Avifaune* 34, 14-18.
- TELAILIA, S., BOUTABIA, L. & BEDDEK M., 2018: Première observation de l'Aigrette à gorge blanche *Egretta gularis* en Algérie. *Alauda* 86(4), 319-320.
- TELAILIA, S., BOUTABIA, L., HARZALLAH, B., AYYACH, K., BOULAOUAD, B.A. & EL BOUHISSI, M., 2020: Observations récentes de l'Aigle pomarin (*Clanga pomarina*), l'Aigle criard (*Clanga clanga*) et l'Aigle ravisser (*Aquila rapax*) en Algérie. *Alauda* 88(2), 129-131.
- TUCKER, G.M. & HEATH, M.F., 1994: Birds in Europe: their conservation status. BirdLife Conservation Series No. 3. Cambridge, UK: BirdLife.
- VAN DEN BERG, M.S. & COOPS, H., 1999: Stoneworts. The Directorate-General for Public Works and Water Management, RIZA Report 98.055, Leylstad, NL.
- ZEDLITZ, O.V., 1914: Ornithologische Reisebilder aus Nord-Algerien. *J. Ornithol.* 62, 110-134.