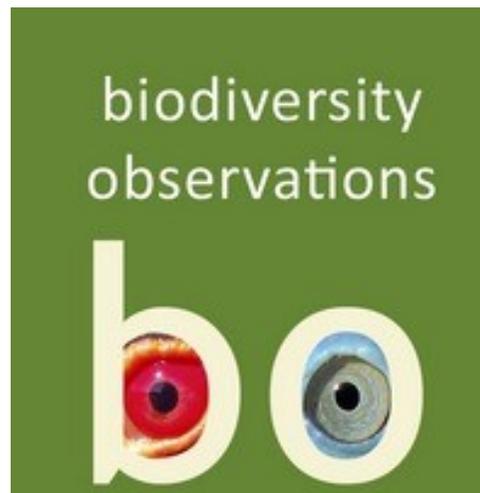


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Ornithology

Marbled Teal *Marmaronetta angustirostris* breeding in Wadi Djedi at Ziban region, Algerian Sahara

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Abstract

This note reports the breeding of Marbled Teal *Marmaronetta angustirostris* at Wadi Djedi wetland at Ziban oasis, in the northeastern Algerian Sahara). On 14 May 2019, two females and their ducklings were observed. This breeding provides evidence that Marbled Teal may breed elsewhere in the region and provides the first information concerning the breeding strategy of this species in Algeria, especially in the northeastern Algerian Sahara Urgent measures and regular surveys are needed to protect this vulnerable species and their preferred habitats.

Observation

Wadi Djedi is one of the largest Saharan rivers in the northeastern part of Algeria is regularly visited by ornithologists to monitor and count birds. In the early morning of 14 May 2019, we observed two adults of Marbled Teal *Marmaronetta angustirostris* swimming with their ducklings, the first with five ducklings, and the second with seven, at Wadi Diedi and managed to take several photographs (Figures 1 & 2). Our observation was at Wadi Djedi near the municipality of Oumache (34°39'44.13" N, 5°41'32.22" E), Biskra Province. A maximum of 422 individuals of Marbled Teal was noted at Wadi Djedi in December 2014 (Nouidjem *et al.* 2019). Courtship behaviour of this species occurs from February to the end of March (Maazi 2009) and last eggs are laid in late May and June (Heim de Balsac & Mayaud 1962).

Marbled Teal is a sarmatic species (i.e. occurring in the region of the Mediterranean Sea, Black Sea and Caspian Sea) (Isenmann & Moali 2000). It is a globally threatened duck, with conservation status classified as Vulnerable in the IUCN Red List (BirdLife International 2004). It is decreasing in abundance throughout its range (Madge 1988); the total population size has been estimated at 50,000–55,000 individuals, with only 3,000–5,000 individuals estimated to occur the western Mediterranean region (Dodman 2002). In the Western Palearctic, its breeding range has been reduced to a few isolated sites in Spain and North Africa (Green 1993). This Vulnerable status is related to extensive destruction of their preferred habitats which has reduced the extent of favourable foraging areas during the warm and dry summer months; this has resulted in mortality of chicks and adults (Harchrass *et al.* 2010). It is sedentary and breeds in wetlands along the southern shore of the Mediterranean Sea. Several studies have investigated the species ecology and behaviour mainly in Spain and Morocco (Navarro & Robledano 1995, Green *et al.* 2005), and in Algeria (Maazi 2009, Nouidjem 2008, Aberkane *et al.* 2014).

According to Heim de Balsac & Mayaud (1962), outside the breeding season, the Marbled Teal is observed in southern Algeria as far south as Biskra. It was observed throughout the year in the wetland com-



Figure 1: Marbled Teal *Marmaronetta angustirostris* with ducklings, Wadi Djedi river (Oumache), Biskra Province, Algeria.

plex of Eastern Hauts Plateaux of Algeria (Maazi 2009, Aberkane 2014), in the salt pans of Oued Righ wetland complex (Nouidjem 2008, Bouzegag et al. 2013), and at the wetland complex of Ziban Oasis (Farhi 2012, Nouidjem et al. 2019). The nearest known breeding populations of Marbled Teal are in Tunisia, where the species is a resident breeder; it also winters there in large numbers, especially on the edges of the Sahara (Isenmann *et al.* 2005). Moreover, it bred in Algeria profusely in the Lake Fezzara (Heim de Balsac & Mayaud 1962, Isenmann & Moali 2000) and in the Macta (Metzmacher 1979). One breeding record has been suspected at Lake Reghaia (Jacob et al. 1979), in Boughezoul (Jacob & Jacob 1980) and in Lac des Oiseaux (Houhamdi 2002).

This is the first known record of breeding of this duck at Wadi Diedi. The diversity of habitats (phragmites, palm groves, etc) favours the breeding of many species of waterbird. The Marbled Teal appears to have suffered a rapid population decline, evidenced in the contraction of its core wintering range, as a result of widespread and extensive habitat destruction. It is also subject of many threats, principally human pressure through hunting and habitat fragmentation by people neighbouring the wetlands where this species is breeding and wintering. Also, it should be noted that there are many threats faced by the wetland at Wadi Diedi, such as water pollution, and excessive pumping of water from the wetland for use for farmland irrigation. Urgent measures and regular surveys are therefore needed to protect this Vulnerable species and its preferred habitats.



Figure 2: Marbled Teal ducklings, Wadi Djedi river.

This wetland highlights the priority of conservation actions that local authorities must urgently take in order to comply with the management programme. Our studies have revealed that Wadi Djedi constitutes a very important refuge for the Marbled Teal; it not only hosts an important population that can reach up to 400 individuals, it has also provided valuable information concerning his breeding range in Algeria, and especially breeding in the northeastern section of the Algerian Sahara.

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