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# Species composition, relative abundance and habitat association of Waterbirds in the Sahara wetlands of Algeria

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## Abstract

Algerian Sahara wetlands represented by a number of sites have different characteristics of undeniable importance. These aquatic ecosystems have a great biological diversity due to their morphological features, but they remain very poorly studied in Algeria.

The monitoring of the bird fauna of these wetlands between 2005 and 2011, allowed us defining the spatial patterns in species richness, abundance and diversity in relation to their habitat characteristics. A total of 57 species representing 15 families were assessed, among the most representative families were Anatida, Scolopacidae with thirteen species each and Ardeidae with six species. Some species were observed with relatively large numbers: Greater Flamingo *Phoenicopterus roseus* (35000 individuals) and other breeding species are listed as Near threatened (Ferruginous duck *Aythya nyroca*) and vulnerable (Marbled Teal *Mararonetta angustirostris*) according the IUCN Red List.

The variation of phonological status of this avifauna, allowed us to determine the key sites and habitats used for wintering, as stopover during trans-Saharan migration and for breeding.

Statistic analyses reveled that wetland area and water level fluctuations as the most significant variables affecting bird abundance. Whereas, vegetation cover and wetland area may influence diversity and species richness was determined by open water area rate. The correspondence factor analysis (CFA) confirmed the dependence of species distribution patterns and morphological features of the Sahara wetlands. .

Overall, these results show the need for wetland conservation in Algeran Sahara, paying particular attention to the most heterogeneous wetlands to conserve the greatest species richness and bird abundance.

**Keywords:** Wetland, Waterbirds, Sahara, Diversity, Algeria

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