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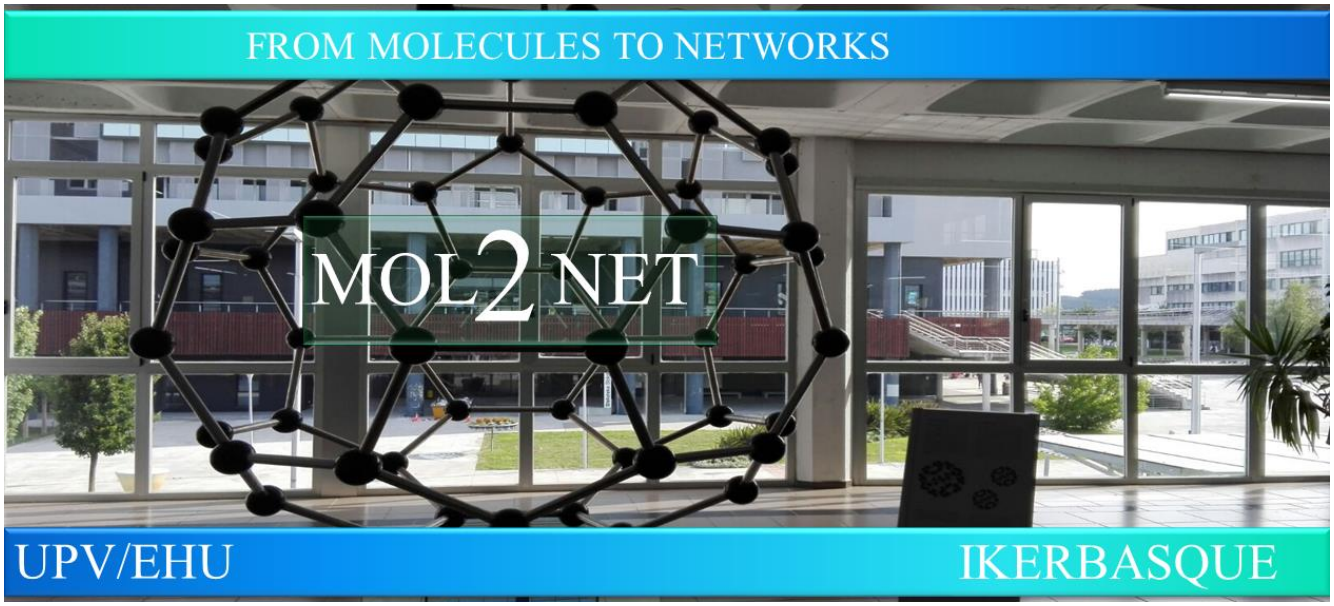

Diurnal behaviour of the *Aythya ferina* in the Tonga Lake (Northeast of Algeria)

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Graphical Abstract

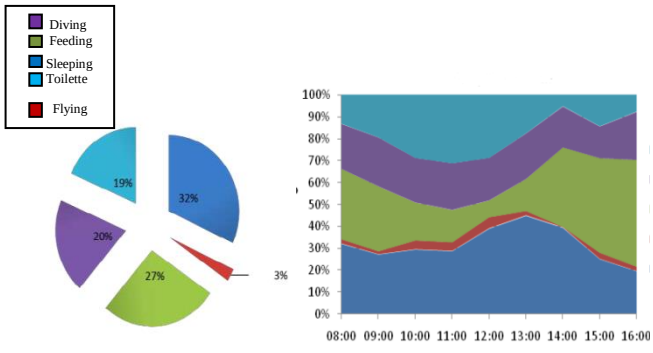

Fig.1. Overall assessment of the diurnal activity rate of the *Aythya Ferina*

Abstract.

This study was conducted on Common Pochard *Aythya ferina* for a study Diurnal behavior and counting of the species during the winter (September 2015 to March 2016) in Lake Tonga in the National Park of El kala. The anatidae begins to arrive at the lake at the earliest in November; the maximum number 230 individuals were observed in early January. Showing the diurnal behavior of the species that Tonga Lake was mainly used during the day to rest (sleeping 32%) followed by feeding 27%.

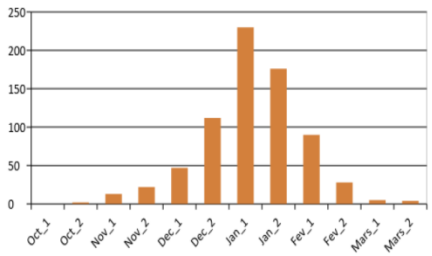

Fig2. Effectives of the *Aythya ferina* during the winter season wintering season 2015-2016

Introduction *(optional)*

The Common Pochard (*Aythya ferina*), which inhabits lakes and marshes, has been classified as vulnerable (IUCN 2017). The study of ducks allows us to understand their energy requirements in the front of the variations in climatic conditions and seasonal variations, concerning the counting of the number of ducks it allows us to know the fluctuations of the number of individuals from one year to another.

Materials and Methods *(optional)*

The study was carried out at the level of Lake Tonga; the species studied is the Common Pochard *Aythya ferina* , we studied the wintering phenology which concerns the enumeration of the number of this species as well as the spatial occupation and the study of the diurnal time budget during the wintering season 2015-2016. The methods used to count water birds in the field depend on many factors such as: species monitored, size of the site and accessibility of the coast ....

The best known methods are absolute and relative methods. The count was carried out from different observation points to cover the entire lake and the latter was divided into 6 zones (Zone A, Area B, Area C, Area D, Area E, Area F)

Results and Discussion *(optional)*

The results (Fig2) show that the first arrivals of the Common Pochard are noted at the beginning of November, the number increases progressively reaching 230 individuals at the beginning of January, which represents the peak of the winter migration.

From the end of January the number of individuals begins to decline, the Common Pochard leaves the site until there are only a few individuals left on the water level.

The first arrivals of the *Aythya ferina* are recorded in the first decade of recorded in the first decade of November in Area C November in Zone C (Chemin des oiseaux and the old school) and the number gradually increases until it reaches a peak of 230 individuals distributed over most of the lake in January.

It can be seen that in the overall balance of the Common Pochard (Fig 1) the sleep activity is dominant at 32% followed by feeding at 27% and swimming, grooming at 20 and 19% respectively, as well as flight activity at 3%.

Conclusions *(optional)*

The Common Pochard is a wintering species, it passes through this lake. It appears from the follow-up of the diurnal time budget shows a dominance of sleep, which shows the role of diurnal shedding ground of this body of water. Our results corroborate with those of Aissaoui (2012), Draidi (2013) and Houhamdi and Samraoui, 2008 in the same water body previously. The daytime sleep allows wintering

birds to reduce their energy expenditure, while energy expenditure, while promoting lipid accumulation and minimizing body heat loss to combat the cold of this bioclimatic region Subhumid with cold winter (Tamisier, 1972; Green, 1998; Costa and Bondi, 2002; Tucakov, 2005; Boumezbeur et al.,2005 in Tabouche, 2016)

Feeding activity is the second most important activity recorded, our study showed a daily variation of time allocated to this activity.

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