



## ORNITHOLOGICAL STUDY ON FALTICENI PONDS AND DAM LAKE ROGOJESTI (SUCEAVA COUNTY, ROMANIA)

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### SYNOPSIS

The present study was done on the Falticeni ponds and dam lake Rogojesti situated in the Superior basin of Siret River (Suceava county). The both aquatic areas are Important Birds Areas in Romania and Falticeni ponds are part of the Romanian Natura 2000 Network (SPA). For the Rogojesti Lake, the ornithofauna's list includes 43 bird species, from which 23 de species being aquatic birds. The effectiveness of these species are increasing during the passage period, but diversity and populations of breeding species are really low. In Falticeni ponds area, we recorded 75 species; most of them are visiting the area during the migration and winter time. The breeding birds' diversity and population are low, but there are present few pairs of aquatic and semi-aquatic species. The human pressure has enough high level, especially, on the Falticeni ponds, where exist interest to organise nautical sports.

### INTRODUCTION

The Falticeni ponds and dam lake Rogojesti are situated in the Superior basin of Siret River on the territory of Suceava County. The both aquatic areas are Important Birds Areas in Romania and Falticeni ponds are part of the Romanian Natura 2000 Network like Special Protected Area for Birds/SPA (HG 1284/2007).

The dam lake Rogojesti (RO004) is a situated nearest Siret city, at 1.5 kilometres distance in the south-eastern direction. It is a dam lake on the Siret River, covering about 800 hectares. The hydrological arrangement was done in order to control the flooding risk and to produce electric energy. The eastern border is concreted while the western border is natural, with small herbs forming a meadow; the reed is not covering large surfaces but the aquatic vegetation is rich, especially, in the not depth waters. Nearest the western border, there exist a deciduous small forest

and in the open area of the lake there some small islet with trees and bushes vegetation. During the winter time (the winters are very cold in the area, the temperatures touching – 33 °C sometime), the waters froze on the 75% from the whole lake' surface.

The SPA Falticeni ponds (ROSPA 0064) include the lakes from Somuzu Mare River, tributary river of Siret River, with a length about 51 km. The area is situated nearest Falticeni city, including a string of lakes (Somuzu I and II, Podeni-Podeni, Groapa Vladichii) and has a total surface about 600 hectares. The red surfaces are not very large and on the border are present meadows and agricultural lands; closer, there are present some forest clusters (oaks, hornbeams, elms and lindens), too.

### METHODS AND STUDY PERIOD

Our field observations began in 2004 and follow during four years (2004 - 2008) for the lake Rogojesti during the summer, birds' migration and winter period. We visited the Falticeni ponds began 2006 to the present. The most important methods are the directly observation from fixed point or along the transects with binoculars and telescope (10 x 50, respectively, 40 x 60) and different counting methods, according to the birds species – bands counting (for the aquatic and semi-aquatic species, especially during the passage and winter), points of counting (especially, during the breeding period) or night counting to count the nocturnal birds like *Crex crex*. Transects were established during our first visits and we kept them during whole study. We took photography and video images for some aspects, including from the air through a small plain. During the breeding season, we done trip by boat to find aquatic birds' nests.

### RESULTS AND DISCUSSIONS

On the Rogojesti dam Lake, the birds' fauna's list includes 43 bird species, from which 23 de species being aquatic birds (*Aythya marila*, *Aythya ferina*, *Cygnus olor*, *Tachybaptus ruficollis*, *Podiceps cristatus*, *Sterna hirundo*, etc.). The herons, storks and wader species use to seek food in the no depth waters and in the surrounding puddles or swampy areas nearest the lake, sometimes forming compact groups (for example, in a small puddle, on the 1<sup>st</sup> October 2005, we counted 55 exemplars of Lapwings – *Vanellus vanellus* and 120 of Green Sandpiper – *Tringa ochropus*).

Between the typically aquatic bird species, we recorded only seven breeding species - *Anas platyrhynchos*, *Gallinula chloropus*, *Fulica atra*, *Podiceps cristatus*, *Cygnus olor*, *Larus ridibundus* and *Acrocephalus arundinaceus*, with relatively small populations.

The effectives of these species are increasing during the passage period (especially in the spring migration), when more than 20,000 aquatic or semi-aquatic birds are passing through this area.

During the winters, the aquatic birds have not very big effectives (few hundreds), but thousands passerines are finding rich food resources in this area. We must notice the presence of one flock of 14 individuals of *Plectrophenax nivalis* (January 2005), representing the first appearance of the species in this region.

As we present in the figure 1, the majority of aquatic birds recorded for this dam lake are commonly or relatively common.

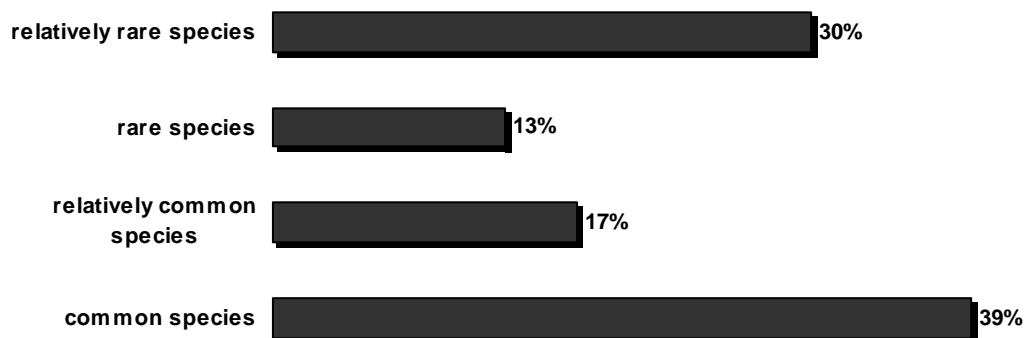


Figure 1 – The frequency status of the aquatic bird species recorded on the Rogojesti Lake

In the summer time, we observed very large differences between the birds' effectives from one year to other due the climate conditions and the large oscillations of the water's level in the lake. This last influence factor is decisive for the breeding populations, because the permanent oscillations of the water level (due the hydro-electrical power station) disturb the breeding season. The birds loose their clutches when the water's level increase suddenly or can leave it when the waters become not depth enough to provide food resources for the birds and their chickens.

Regarding their phenology in the area, most than 50% are summer visitors, while during the winter we can observe only few aquatic bird species (figure 2).

We must notice, too, the constant and high presence of the fishermen and hunters in this territory that create another disturbing factor for the birds' fauna.

Till now, our fieldworks permitted to record in the avifauna list of Falticeni ponds 75 bird species; most of them are visiting the area during the migration and winter time. As birds' effectives, in this string of lakes, we can count around 20,000 aquatic birds and waders like regular presence, reason of the SPA status of this territory.

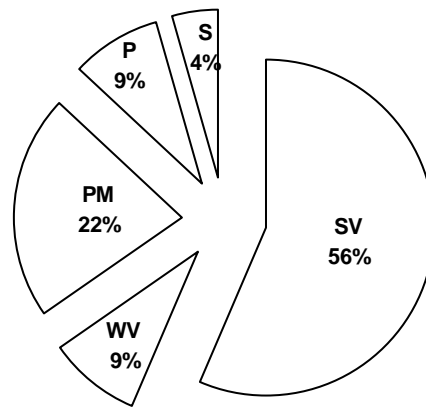


Figure 2 – The phenology status of the aquatic bird species observed on the Rogojesti Lake

Between these species, we mention some that present effectives of hundreds individuals – *Anser anser*, *Anas platyrhynchos*, *Anas crecca*, *Aythya nyroca*, *Aythya ferina*, *Cygnus olor*, while other appears with flocks about tens exemplars (*Aythya marila*, *Anas acuta*, etc.). We mention the unusual later presence of a group about 17 exemplars of Goldeneyes (*Bucephala clangula*) on the 9<sup>th</sup> April 2008 – generally, this duck species leave the Romanian territories in the first middle part of March, being winter visitor on numerous lakes from the north-eastern part of the country.

During the spring and autumn passages, the wader species (*Gallinago gallinago*, *Lymnocyptes minimus*, *Actitis hypoleucos*, *Tringa nebularia*, *Philomachus pugnax*, etc.) appear on the all swampy or temporary flooding territories. Small flocks are remaining here in the summer time, but are not breeding (excepting the Lapwing – *Vanellus vanellus* and the Little Ringed Plover – *Charadrius dubius*, the last being irregular breeding with one – three pairs). We assume that are young birds that use the rich food resources and good refuge sites of this territory.

From the whole birds' fauna, 40 species are aquatic or semi-aquatic bird species and from these, 21 are breeding bird' species with small populations (*Botaurus stellaris*, *Ciconia ciconia*, *Cygnus olor*, *Circus aeruginosus*, *Chlidonias hybridus*, etc.). The Ferruginous Duck (*Aythya nyroca*) is irregular breeding species with two – four pairs.

On the Falticeni ponds, we observed 33 bird species (table 1) included in the annexes of the Birds' Directive and Bern Convention.

**Table 1 – Bird species included in the Annexe 1 of the Birds' Directive and in the Bern Convention recorded on the Falticeni ponds**

No.	Bird species	Birds' Directive Annexe 1	Bern Convention
1.	<i>Botaurus stellaris</i>	+	+
2.	<i>Egretta garzetta</i>	+	+
3.	<i>Casmerodius albus/Ardea alba</i>	+	-
4.	<i>Ciconia ciconia</i>	+	+
5.	<i>Aythya nyroca</i>	+ /C1	-
6.	<i>Circus aeruginosus</i>	+	-
7.	<i>Falco tinnunculus</i>	-	+
8.	<i>Charadrius dubius</i>	-	+
9.	<i>Chlidonias hybridus</i>	+	+
10.	<i>Alcedo atthis</i>	+	+
11.	<i>Merops apiaster</i>	-	+
12.	<i>Upupa epops</i>	-	+
13.	<i>Dendrocopos syriacus</i>	+	+
14.	<i>Riparia riparia</i>	-	+
15.	<i>Hirundo rustica</i>	-	+
16.	<i>Delichon urbica</i>	-	+
17.	<i>Motacilla flava</i>	-	+
18.	<i>Motacilla alba</i>	-	+
19.	<i>Erithacus rubecula</i>	-	+
20.	<i>Saxicola rubetra</i>	-	+
21.	<i>Saxicola torquata</i>	-	+
22.	<i>Phoenicurus ochruros</i>	-	+
23.	<i>Sylvia atricapilla</i>	-	+
24.	<i>Hippolais icterina</i>	-	+
25.	<i>Acrocephalus schoenobaenus</i>	-	+
26.	<i>Muscicapa striata</i>	-	+
27.	<i>Parus coeruleus</i>	-	+
28.	<i>Parus major</i>	-	+
29.	<i>Oriolus oriolus</i>	-	+
30.	<i>Fringilla coelebs</i>	-	+
31.	<i>Carduelis carduelis</i>	-	+
32.	<i>Carduelis chloris</i>	-	+
33.	<i>Emberiza schoeniclus</i>	-	+

The bird species that are nominated in the Annexe 1 of the Birds' Directive represent species that need special protection in order to save them from the disappearance risk; between these species, we notice the presence of the globally threatening species *Aythya nyroca*, present during the migration period, but also like irregular breeding species in the area. As we can see in the table, six bird species appear in the both international conventions.

The human pressure has enough high level, especially, on the Falticeni ponds, where exist interest to organise nautical sports. In the same time, the reed's burning or harvesting represent another big problem in this area, especially when this practice are done in June, disturbing the birds' breeding season – increase the clutches destroying or chicken's death's risk. In the years 1998, respectively, in 2001, there were two very dangerous pollution events in the Falticeni ponds, with cyanides and

ammonium, affecting not only the waters and the fishes' fauna, but the surrounding meadows, too. The pollution' source was represented by Metadet Chimia Falticeni Factory.

In the both investigated areas, we observed the constant presence of the fishermen, but we met situations fishing and hunting poachers.

### CONCLUSIONS

On the Rogojesti dam Lake, the birds' fauna's list includes 43 bird species, from which 23 de species being aquatic birds. There are present significantly effectives of species like *Larus ridibundus*, *Larus minutus*, *Fulica atra*, *Anas platyrhynchos*, *Acrocephalus arundinaceus*. We recorded 7 breeding bird species: *Anas platyrhynchos*, *Gallinula chloropus*, *Fulica atra*, *Podiceps cristatus*, *Cygnus olor*, *Larus ridibundus* and *Acrocephalus arundinaceus*.

On the Fälticeni ponds we observed 74 bird species, 40 being aquatic and semi-aquatic bird species. At least 19 are breeding species and another two (*Aythya nyroca* and *Charadrius dubius*) are irregular breeding species, with small effectives.

Part of recorded species appears in the annexes of different international conventions and Romanian laws.

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