



ORNITHOLOGICAL STUDY ON THE CARJA-MATA-RADEANU PONDS IMPORTANT BIRD AREA, ROMANIA

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SYNOPSIS

The Important Birds Area “Carja-Mata-Radeanu ponds” is situated along the point of the confluence of Elan River with Prut River, on the borderline of Galati and Vaslui Counties. The IBA includes four fishery farms and the floodable areas situated along the Falciu, Bogdanesti and Ranzesti localities, in the northern part of the ponds. This area represents one of the most important breeding, feeding and resting surfaces for the birds in the Romanian Prut River basin. During our study period (2002 - 2008) we recorded 160 bird species in this area: 90 breeding species, 13 probably breeding species and 56 non-breeding species. From the recent identified species (especially, in the last two years) in this area we can mention the following: *Cygnus Cygnus*, *Branta ruficollis*, *Tadorna ferruginea*, *Haliaeetus albicilla*, *Circus cyaneus*, *Haematopus ostralegus*, *Sterna albifrons*, etc.

INTRODUCTION

The Important Birds Area “Carja-Mata-Radeanu ponds” is situated along the point of the confluence of Elan River with Prut River, on the borderline of Galati and Vaslui Counties.

The IBA has a total surface area of 1517 ha and mean volume of 16.69 millions m³ water (the water volume varies yearly depending on the weather conditions and the fisheries maintenance works) and include almost 200 ha of dikes and canals. The southern part of the Carja-Mata-Radeanu ponds (the Mata-Radeanu farm) is part of the “Low Meadow of Inferior Prut” Natural Park. Also, the IBA’s perimeter includes the floodable areas situated along the Falciu, Bogdanesti and Ranzesti localities, in the northern part of the ponds.

Due the weather conditions’ visible change (temperature’s increasing, abundant rains, flooding in the Prut River basin, etc.), in the last past years and, especially beginning with 2004;summer, in the Carja-Mata-Radeanu ponds’ perimeter appears suitable conditions for many bird species through new natural created feeding, resting and breeding areas. The most important habitats in the area are water bodies, water

courses, inland marshes, natural grassland, broad-leaved forest, pastures, and non-irrigated arable land. During the spring and autumn the mentioned above northern floodable areas represent important feeding and resting surfaces for the birds during the migration time. In case when the flooding persists (in the 2006 or 2008' summer), these floodable areas are use for breeding by different waterfowl and wader species.

Also, the present economic situation of the fishponds affects some essential aspects of the aquatic surfaces. The rise in cost of the electrical energy needed to pump water into basins led to the abandonment of some ponds within the fisheries' perimeter (Carja I, Carja II, Mata-Radeanu). Therefore, some of these ponds were invaded by the reed and that created nesting places for many bird species.

We must mention that the human activities in this area are limited due the low industrialization and the frontier status of the area.

METHODS

Starting with 1992, Carja-Mata-Radeanu ponds' birds' fauna has been well investigated (especially, by Gache & co.). Based on these studies the systematic list of the bird species from the Romanian Prut River basin included more then 225 species.

Our fieldwork study starts in 2002. We used transects method and observation form the higher fixed point that the colony area. These methods were used to identify the bird species, to count their effectives and for following seasonal dynamic.

RESULTS AND DISCUSSIONS

Until the 2002 (Gache, 2002), in the studied area were observed 127 bird species. In the last years, we observed a substantial increasing of the bird species; number up to 160. From the recent identified species (especially, in the last two years) in this area we can mention the following: *Cygnus Cygnus*, *Branta ruficollis*, *Tadorna ferruginea*, *Haliaeetus albicilla*, *Circus cyaneus*, *Haematopus ostralegus*, *Sterna albifrons*, etc.

The seasonal analysis of the bird species shows that 90 are breeding species, 13 are possible breeding and 57 are non-breeding species. The breeding species are included in 11 order and 36 families (Sibley & Ahlquist, 1990) (table 1).

Table no. 1 - The taxonomic distribution of the birds' fauna observed on the Carja-Mata-Radeanu ponds

Order	Family	Number of species
Galliformes	1	3
Anseriformes	1	18
Piciformes	1	4
Upupiformes	1	1
Coraciiformes	3	3

Cuculiformes	1	1
Apodiformes	1	1
Strigiformes	2	2
Columbiformes	1	3
Gruiformes	1	3
Ciconiiformes	11	62
Passeriformes	12	60

As we see the most well represented order is *Ciconiiformes* with 62 species grouped in 11 families, as well as the small singing birds (*Passeriformes*) with 62 species grouped in 12 families.

Following the bird' species' dynamic throughout the seasons we could notice that there can be observed the rare bird species like *Ciconia nigra*, *Tadorna tadorna*, *Recurvirostra avosetta*, *Larus fuscus* and *Larus minutus*, during the passage period with a small, but constant effectiveness.

During the winter time, there were observed constant winter visitors like *Cygnus olor*, *Anser albifrons*, *Anas platyrhynchos*, *Anas acuta*, *Anas penelope*, but also rare wintering species in Romania like *Ardea cinerea* and *Casmerodius albus/Ardea alba*, that find good refuge sites in the compact reedbeds, especially, on the Mata-Radeanu ponds, including other unusual wintering bird species presences - *Botaurus stellaris* (Mata-Radeanu, 2007), *Aythya nyroca*, *Haliaeetus albicilla* or *Circus aeruginosus*, etc.

We observed a progressive breeding populations' increasing in the area for the following species: *Podiceps nigricollis* (20 pairs, in 2006, Carja I fishery farm), *Casmerodius albus/Ardea alba* (15 pairs, Mata-Radeanu, Carja I fishery farm), *Ardela ralloides* (25 – 30 pairs, Mata-Radeanu and Carja II fishery farms), *Ardea purpurea* (15 pairs, Mata-Radeanu and Carja I fishery farms), *Platalea leucorodea* (50 - 55 pairs, Carja I fishery farm in 2007, Mata-Radeanu fishery farm in 2004, 2005 and 2006, respectively, Carja II fishery farm in 2002 and 2003), *Anser anser* (30 pairs), *Aythya nyroca* (40 – 50 pairs), *Larus ridibundus* (40 pairs in Carja I fishery farm and 30 – 35 pairs in Mata-Radeanu fishery farm) and a numerical explosion of the *Chlidonias hybridus*' population which touched 700 breeding pairs in 2006 (from 117 pairs in 2003).

Also, other species were presented a positive trend - *Lanius minor*, *Phoenicurus ochruros*, *Saxicola torquata*, *Oenanthe oenanthe* and *Corvus corax*. The increasing of *Lanius minor*'s effective produced a negative trend of the *Lanius collurio*'s effectiveness, because the both species use the same habitat, concurring, especially, for the food.

In the last three years the White-Tailed Eagle (*Haliaeetus albicilla*) becomes a constant presence in the studied area. Adults and juveniles used the area for feeding. This species probably breeds in Horga forest at 27 km distance from Carja in the north-east direction.

As new breeding birds for the Carja-Mata-Radeanu area was observed the following species: *Plegadis falcinellus* (at Mata-Radeanu, in 2006 and 2007, at Carja II, in 2004 and 2005, respectively, at Carja I, in 2003 and 2007), *Limosa limosa* (at Carja I and Mata-Radeanu, in 2007, respectively, at Carja II and Mata-Radeanu, in 2006), *Chlidonias niger* (at Carja II, in 2006 and 2007) and *Chlidonias leucopterus* (at Carja II, in 2007).

In the fisheries, perimeter, some of the abandoned ponds (consequence of the high costs of electrical energy) were invaded by the reed and that created nesting places for many bird species belonging to the Charadriiformes order, Ardeidae family, *Acrocephalus sp.* or other passerines). However, due the abundant rains from the last years, some large ponds were, partially, occupied by the reed and these ponds contained water (1 - 1.5 m depth) with richly developed floating vegetation. These are optimal conditions for breeding for the aquatic bird species like *Chlidonias hybridus*, *Chlidonias niger*, *Larus ridubundus*, *Podiceps cristatus*, *Podiceps nigricollis* etc.

During the spring and autumn the floodable territories situated along the Falciu, Bogdanesti and Ranzesti localities, in the northern part of the ponds, represent important feeding and resting surfaces for the birds during the migration time: *Vanellus vanellus*, *Numenius arquata*, *Tringa ochropus*, *Tringa glareola*, *Tringa stagnatilis*, *Tringa nebularia*, *Tringa totanus*, *Tringa erythropus* or *Philomachus pugnax*. In case when the flooding persists (in the 2006 or 2008' summer), these floodable areas are use for breeding by different waterfowl and wader species, like: *Anas platyrhynchos*, *Anas querquedula*, *Aythya nyroca*, *Chlidonias hybridus*, *Sterna hirundo*, *Vanellus vanellus* or *Charadrius dubius*.

From the passage visitors, we notice the first time observation for the investigated area of the following species: Red-Breasted Goose (*Branta ruficollis*) in 2006, on the Mata-Radeanu ponds (15 individuals), Imperial Eagle (*Aquila heliaca*) at Mata-Radeanu, in 2002, Whooper Swan (*Cygnus cygnus*) at Bogdanesti, 2007, Shelduck (*Tadorna tadorna*) at Mata-Radeanu, in 2004, Ruddy Shelduck (*Tadorna feruginea*) at Carja II in 2004, Long-Legged Buzzard (*Buteo lagopus*) at Carja I in 2003), Hen Harrier (*Circus cyaneus*) at Mata-Radeanu and Carja I in 2005 and 2006, Oystercatcher (*Haematopus ostralegus*) at Mata-Radeanu in 2007.

CONCLUSIONS

Due the change of weather conditions and the present economic situation, during the last years, in the IBA Carja-Mata-Radeanu ponds' perimeter, suitable conditions for many bird species appears, creating new feeding, resting and breeding places.

We noticed a quantitative and qualitative increasing of birds' fauna in this IBA's perimeter.

We observed a positive trend for some breeding species populations, like *Podiceps nigricollis*, *Casmerodius albus/Ardea alba*, *Ardela ralloides*, *Ardea purpurea*, *Platalea leucorodea*, *Aythya nyroca*, *Chlidonias hybridus*, etc.

As new breeding bird species for the Carja-Mata-Radeanu area, we found *Plegadis falcinellus*, *Limosa limosa*, *Chlidonias niger* and *Chlidonias leucopterus*.

During the passage period, we observed for the first time in the studied area species like *Branta ruficollis*, *Aquila heliaca*, *Cygnus cygnus*, *Tadorna tadorna*, *Tadorna ferruginea*, *Buteo lagopus*, *Circus cyaneus* and *Haematopus ostralegus*.

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