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CONSIDERATIONS ABOUT THE OBSERVATIONS AND THE PERFORMED RING PUTTING ON BIRDS IN FURTUNA-MALIUC AND VADU (THE DANUBE DELTA BIOSPHERE RESERVE)

BY

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Key words: birds, avifauna diversity and abundance

Between 18.08.2003 – 01.09.2003, with the help of Tulcea's branch of SOR, there was organized an ornithological camp in the Danube Delta Biosphere Reserve (at Furtuna - Maliuc lake and in Vadu area, Constanta District), with the participation of some teachers and students from the Faculty of Biology of the University "Al. I. Cuza" , Iasi. The purpose of this expedition was to analyze the quantity and the quality of the avifauna through the method of visual transects and the bird capture with ornithological nets. In this period there were observed a number of 177 bird species and there were ringed 81 birds from 23 species.
The low water level in Furtuna Lake area as well as in Sinoie Lake- Vadu area was favourable to the waders, ducks, swans, herons, eastern glossy ibises, pelicans.

Introduction

Between 18.08.2003 – 01.09.2003 the Branch of Tulcea's SOR has organized an ornithological camp in the Danube Delta Biosphere Reserve. The ornithological camp took place in two stages: first stage took place in the close proximity of Furtuna Lake at south bank, and the second one in the south of Chituc's marine levee in Vadu area, the south limit of the Danube Delta Biosphere Reserve. (Botond, J. K., 1997).

The purposes of this incursion were to analyze the quantity and the quality of the avifauna through the method of visual transects (Metode de evaluare a abundenţei păsărilor, 2000) and the bird capture with ornithological net.

The Furtuna Lake is situated at about 5 km NE from Maliuc locality; it has a surface of about 900 ha, being one of the most representative lakes from the Danube Delta. (Cuzic V., 2003) The highest depth of the lake is about 3 m, but in the southern and in the western sides there are smallest depth producing as well areas which are favorable for feeding numerous species of birds as: waders, ducks, swans, herons, eastern glossy ibises, pelicans, etc.

The ornithological nets were placed in the SV side of the lake in a willow forest (*Salix alba*), limited by a strip of reed (*Phragmithes australis*), which is flooded more

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then six month a year, so representing a very important habitat for the species of passerines which are using the area as a place to nestle or to transit during the migrations period.

The second stage took place in Vadu's area, south by Chituc's marine levee, which is an entirely protected area as part of the Biosphere Reserve of Danube-Delta, with a surface of 2300 ha. Chituc's levee is an important crossing and wintering area for thousands of birds and it is declared Important Bird Area no. 5 (I.B.A.) on national level. (Criterii AIA, 1996) A very important part of the substratum is formed by mollusk's shells, especially sea shells, sands and salt soil. The east side of the Chituc's marine levee is ended by the sea. At west and south-west from Chituc's sands there is Sinoie Lake. The depth of the lake is not so high, especially on its south side, representing a very important area for nesting and especially for feeding and resting of the waders' species, which appears in large amounts in this area during the migration time.

Sinoie Lake is surrounded by a strip of reed (*Phragmithes australis*), measuring about 150 m width, which has a special importance as a nesting, feeding and resting zone for aquatic species of birds.

In Chituc's zone, as well as in Saele marine levee which surround Sinoie Lake, we can find saxicole and halofile plants, acclimatized to sands and salt soil: *Eryngium maritimum*, *Juncus maritimus*, *Elymus sabulosus*, etc., plants (Ciocărlan, V., 2000) that are important for insects populations which represent the main source of food for numerous species of insectivorous and omnivorous birds.

Very important as feeding and resting place during the migration time for the passerines species that cross this zone are the associations of bushes with *Eleagnus angustifolia* and *Hippophae rhamnoides* , which grow in shapes of rows and clusters along the sand banks.

Materials and methods

The observations in Furtuna Lake zone were effectuated in the morning starting at 6 until 8.30, and in the evening from 18 o'clock until the sunset, working out visual transect (Svensson, Lars, 1992, Svensson Lars 1999, Metode de evaluare a abundenței păsărilor, 2000) of 2 km a long the west shore of Furtuna Lake. During the camp time at Furtuna, there were observed 115 species of birds.

In Vadu area, there were effectuated ornithological observations at the decantation tanks by the village, on the sea shore, as well as at the south end of Sinoie Lake. In this last place, the observations were effectuated from a higher zone (so called "Peasants fortress from Vadu"), from a fixed place, and later there were investigated transects for 10 km a long south and eastern shore. For effectuating the quality and quantity observations we used binoculars (10x50, 12x50, 15x50) and fieldtelescopes (22x60, 15-45x60, 20-60x80).

In Vadu area the observations took place for 5 days between 26 and 31 of August. The dates were fulfilled by those ones which were taken by the end of September from 21.09 until 26.09.2003, on the second travel in the area.

The observations were taken in 3 different places: on the seaside of the Black Sea, decantation tanks near by the Vadu village and on the south and south-east side of the Sinoe Lake.

During the whole period of the camp at Vadu, there were observed 177 species

At Furtuna Lake area, as in Vadu area there were mounted 8 ornithological nets bonfire, each one with a length of 6-7 m, with the aim to capture and ringing the species of passerines.

In Furtuna Lake area as in Vadu area, there were ringed 81 birds from 23 species.

Results and discussion

In Furtuna Lake area there were observed 93 species among which the most important are: *Pelecanus onocrotalus* in number of approximately 1200 individuals, *Plegadis falcinellus* in number of approximately 500 individuals, protected species by the Convention from Berne (1979), *Cygnus olor* in number of approximately 2500 individuals, a number of approximately 3000 ducks among which the predominant species was *Anas crecca* in number of approximately 800 individuals. At the same time there were observed rare species which registered a relative high number of individuals: *Pelecanus crispus* which were present in number of 4, species which was catalogued as being very vulnerable in the world by the red list of IUCN (1994) and the list from Berne for 1979; *Haliaeetus albicilla*, an adult and two juvenile, species considered, after the IUCN (1994) criterions, being endangered and with a high risk of disappearance.

Among the observed waders species, and prevailing as number of individuals we can mention: *Calidris ferruginea*, *Calidris alba*, *Actitis hypoleucos*, *Tringa ochropus*, *Tringa glareola*, *Tringa nebularia*, *Tringa totanus*, *Tringa erythropus*, *Philomachus pugnax*, *Himantopus himantopus*, *Vanellus vanellus*, etc.

In Furtuna Lake area there was observed the *Sterna caspia* species in number of 16 individuals, protected species in accordance with Berne Convention (1979) and rare in Romania as well as in Dobrogea (Weber Peter, 2000) which can be seen only during the crossing periods. The species from genus Chlidonias: Chlidonias niger, Chlidonias leucopterus, Chlidonias hybridus, are frequently seen in Furtuna Lake area and in Vadu area, species which are protected by the Berne Convention (1979). Regarding the marsh terns most cases of the observed individuals were juveniles, because the adults was already gone.

Also during the camp there were visually identified a number of 25 species from Passeriformes order. In Furtuna lake area there was observed the lack of the species from Podicipediformes order, caused by the low level of the water and the extended drought of this year, that have caused an absence of trofic resources for this birds.

The number of species and exemplaires observed at Furtuna lake was high because of extended drought period brought about the decrease of water level and even the drainage of certain swamps, which caused an earlier autumn migration. Our result

are very simmilar with the outher autors. (Cuzic V., 2003, Ion C., 2001, Stanescu D., 1969)

The number of species observed on the seaside of the Black Sea is smaller comparing (Ion C., 2001, Weber Peter, 2003) with the number of species inventoried during the past years, due to late migration because of long drought and especially as a result of the antropic impact increasing year by year. During the whole period of the camp, there were observed 177 species, which belong to four orders, the most well represented being the order of Charadriiformes with 11 species. There were observed rare species for our country as: *Sterna albifrons, Calidris alpina, Limicola falcinellus, Pluvialis squatarola, Stercorarius parasiticus*, rare species which only cross the zone and search for food in the seashore sands.

At the decantation tanks there were observed 40 species, which make part of 8 orders, the most well represented being the order of Chadriiformes with 17 species, such as *Larus minutus* which is a predominant species in this zone with 100 exemplares, like *Phalaropus lobatus* with 19 individuals, extremely rare species for Romania (as is mentioned in red list of animals from Danube Delta Biosphere Reserve- Lista Roşie a speciilor de plante şi animale din Rezervaţia Biosferei Delta Dunării România, 2000) , *Sterna caspia, Calidris temminckii, Charadrius alexandrinus*, etc.

On the south side of Sinoie Lake there were observed 95 species which make part of 12 orders, the most well represented being Charadriiformes order with 35 species, among them more are considered very rare, and we mention here: *Pelecanus onocrotalus* - 350 individuals, *Pelecanus crispus* – 8 individuals, *Anser anser* – 22 individuals, *Anas crecca* – 300 exemplars, *Anas clypeata* – 35 exemplars, *Anas acuta* – 7 exemplars, *Tatorna tadorna* – 215 individuals, protected species by the Convention from Berna (1979), *Recurvirostra avosetta* – 62 individuals, *Charadrius hiaticula* – 24 individuals, *Charadrius alexandrinus* – 12 individuals, *Calidris minuta* – 81 individuals, *Calidris temminckii* – 28 individuals, *Larus minutus* – almost 90 individuals. This mentioned species are protected in Europe by the Convention from Berna (1979)and are mentioned in red list of animals from Danube Delta Biosphere Reserve- Lista Roşie a speciilor de plante şi animale din Rezervaţia Biosferei Delta Dunării România, 2000.
In tanks near to Vadu village there were observed *Phylomachus pugnax* 19 exemplars, and also *Numenius arquata* with 48 exemplares. The great presence of the waders' species is due first of all to the extended draught, so the water level was low and there was created important place for feeding especially for this species.

In Sinoie Lake area and near by, there were recorded during our excursion species as *Platalea leucorodia, Circus cyaneus, Circus pygargus, Falco peregrinus, Haematopus ostralegus, Tringa ochropus, Tringa glareola, Tringa nebularia, Tringa stagnatilis, Tringa totanus, Chlidonias niger, Chlidonias hybridus, Chlidonias leucopterus, Sterna caspia, Coracias garrulus, Merops apiaster*, species which are observed in low number in other moist area of the country.

Among special species (as is mentioned in Atlasul păsărilor clocitoare, 1999 and by Weber Peter, 2000) which were observed during our camp, we would like to

mention: *Tadorna ferruginea* 8 individuals, *Limicola falcinellus* 115 individuals, *Phaloropus lobatus* 19 individuals, *Stercorarius parasiticus* one individual, *Burhinus oedicnemus* 3 juvenile individuals, *Pandion haliaetus* one individual, *Gelochelidon nilotica* almost 30 individuals, this species was present always only in "Peasants fortress from Vadu" area, because on the lawn from this area there is an important population of locust which is the main food for this species.

Among rare species for Romania (as is mentioned in red list of animals from Danube Delta Biosphere Reserve) which were observed on Sinoie Lake, we mention: *Pelecanus crispus* 40 individuals, *Tadorna tadorna* 215 individuals and *Tadorna ferruginea* with 8 individuals.

In Furtuna Lake area, in flooded reed bed and willow forest, there were ringed 42 birds from 7 species, the main species being *Acrocephalus scirpaceus* 23 individuals, species specific to reed beds, and *Parus caeruleus*, species specific to water meadow area with willows. (see table 1)

In Vadu area between 27.08 and 29.08.2003, in bushes area, there were ringed 45 birds from 18 species, the prevailing species being *Lanius collurio* with 16 ringed individuals, specific species to the area where there were placed the ornithological nets. (see table 1)

Beside those 18 species ringed at Vadu, there were captured 6 more species: *Ficedula parva, Ficedula albicollis, Phylloscopus collybita, Phylloscopus trochilus, Phylloscopus sybilatrix, Sylvia curruca*, but these couldn't be ringed because we didn't have such small rings in diameter to make these birds ringing possible. Chituc marine levee is a very important area for migrating birds feeding and resting (especially for passerines) in their journey to the places where they could spend the winter.)

In Vadu area, between 23.09 and 30.09.2003, in autumn, during the migration period, next to Sinoie Lake there were captured about 36 individuals belonging to 6 species. The most numerous individuals captured belong to *Panarus biarmicus* (21), most of them very young, what make us believe that this is the species predominantly nesting in the Sinoie Lake's reed. (see table 1)

Our results are not so different from those of other authors such as Ion C., 2001, Stănescu D., 1969, Weber Peter, 2000. We specify that present situation of avifauna good taking in consideration the great diversity of species and the big number of individuals.

Conclusions

The low water level in Furtuna Lake area as well as in Sinoie Lake area was favourable to the waders, ducks, swans, herons, eastern glossy ibises, pelicans.

Furtuna Lake represents an important habitat for aquatic birds, offering most propitious conditions for food and rest, being a very important area for nesting, migrating for aquatic bird populations which transit this zone of the Danube Delta.

Avifaunistic diversity and birds abundance at Vadu , as well the number of captured species of bird was high.

We consider that future studies will complete the whole image about the avifauna on the Chituc marine levee declaring Vadu area as strictly protected, considering that the human impact is growing up because of the increasing antropic presure.

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Table no 1. The account of bird captures in the studied areas

No.	Species	Zone			**Total captures**
		Furtuna Lake	Vadu	Sinoe Lake (south)	
1.	Jynx torquilla	-	1	-	**1**
2.	Lanius collurio	-	16	-	**16**
3.	Motacilla flava	-	5	-	**5**
4.	Locustella luscinioides	1	-	-	**1**
5.	Acrocephalus schoenobaenus	-	-	4	**4**
6.	Acrocephalus palustris	-	-	1	**1**
7.	Acrocephalus scirpaceus	23	-	5	**28**
8.	Acrocephalus arundinaceus	1	2	-	**3**
9.	Hippolais icterina	-	1	-	**1**
10.	Sylvia nisoria	-	1	-	**1**
11.	Sylvia borin	-	2	-	**2**
12.	Sylvia atricapilla	-	1	-	**1**
13.	Sylvia communis	-	1	-	**1**
14.	Sylvia curruca	-	1	-	**1**
15.	Phylloscopus trochilus	-	1	-	**1**
16.	Phylloscopus collibita	-	1	-	**1**
17.	Phylloscopus sibilatrix	-	1	-	**1**
18.	Ficedula parva	-	1	1	**2**
19.	Ficedula albicollis	-	1	-	**1**
20.	Muscicapa striata	-	7	-	**7**
21.	Saxicola rubetra	-	1	-	**1**
22.	Phoenicurus phoenicurus	3	-	-	**3**
23.	Luscinia luscinia	1	1	-	**2**
24.	Parus caeruleus	11	-	-	**11**
25.	Parus major	2	-	-	**2**
26.	Panurus biarmicus	-	-	21	**21**
27.	Emberiza schoeniclus	-	-	4	**4**
Total captures		**42**	**45**	**36**	**123**