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STRACHINA LAKES COMPLEX – SPECIAL PROTECTED AREA (SPA) IN THE SOUTH-EASTERN PART OF ROMANIA

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Key word:
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SYNOPSIS

Our fieldwork started in 1997 in order to identify the best sites for bird in Ialomita County territory, using different fieldwork methods following data gathering on the birds' diversity, breeding effectives, migration and wintering populations, but also trying to identify the most important threats for birds' fauna in the perimeter of Strachina Lakes Complex. We recorded 142 bird species, from which 128 birds species are common presence then 14 species were recorded just accidental in this area. We had identified ten different habitat types and we had analysed the birds' seasonal dynamic, recording also the routes and crowded territories (for migration halt and nesting sites) in the area. On the birds' species list, we found 18 species of EU community interest, 47 birds species that needs strict protection and 33 species from the Red List (for it's conservation needs a Special Protected Area).

INTRODUCTION

Our study is part of the Romanian Ornithological Society's Important Birds Areas in Romania program that followed to identify the best sites for birds in Romania and represented the basis to create the Natura 2000 Romanian network.

Our efforts were focused on the Strachina Lakes Complex from Ialomita County, lakes that appear for the first time on a Russian map dating from 1835. Situated at 10 km away from Tandarei town (44°36'46" north latitude and 27°11'47" eastern longitude), the natural lake has a total surface of 1000 hectares, a length about 8000 metres, a breadth of 220 m and a depth between 1 - 3 m, being divided by two dams in three lakes: Strachina I, Strachina II and Valea Ciorii. The lakes' altitude is about 10 - 41 m. Strachina lakes complex represent a river haven and it waters salinity is about 3 - 6%.

The vegetation is typical for a stepic area, dominant being the species resistant at dryness like *Poa bulbosa* and *Artemisia austriaca* in association with species like: *Cynodon dactylon*, *Agropyron repens*, *Poa angustifolia*, *Bromus sp*. or *Setaria sp*. The shrubs are represented by species like *Crataegus monogyna*, *Cornus sangvinea* and *Ligustrum vulgare*. The swampy vegetation is represented by *Phragmites communis*, *Carex acutiformis*, *Sagittaria sagittifolia*.

The fauna is rich, represented by fishes (*Perca fluviatilis*, *Carassius auratus gibelio*, *Abramis brama*, *Alburnus alburnus*, *Cyprinus carpio*, *Rhodeus amarus* or *Aristichthys nobilis*, *Hypophthalmichthys molitrix*), amphibians (*Pelophylax ridibundus*, *Pelophylax kl*. *esculentus*, *Lissotriton vulgaris*, *Triturus cristatus*) reptiles (*Lacerta viridis*, *Lacerta agilis*, *Natrix natrix*, Emys *orbicularis*), birds and mammals (*Citelus citelus*, *Spalax leucodon*, *Lepus europaeus*, *Vulpes vulpes*, *Meles meles*, *Mustela eversimani*, *Mustela putorius*).

General information about this lakes complex we found in Licherdopol (1900), Antipa (1910), Muller (1927) and Wast (1933). The most important data on the birds' fauna were published by Papadopol (1962). Recent informations were published in the Romanian Ornithological Society's publications (Munteanu & co., 2002, respectively, Papp & Fantana, editors, 2008).

METHODS

Our fieldwork studies began in 1997 using different field methods: transects and bands' observation in order to identify the bird species and to count their effectives, seasonal dynamic analysis, feeding sites, breeding territories and migration halt perimeters' identify and monitoring.

We proposed the Strachina Lakes Complex as a Special Protected Area/SPA (with favourable notice from the Romanian Academy - no.297/23.12.2002, respectively, from the Ialomita County Concil – no.17/24.03.2003). The whole perimeter got SPA statute in 2004, within the Romanian network NATURA 2000 and has an own management plan and activity regulation, being the main objective in an EECONET project.

RESULTS AND DISCUSSIONS

In the area of the Strachina Lakes Complex were observed 142 bird species from which 128 species are commonly presence (table 1), other 14 bird species being reported just like accidental presence in the area (table 2).

The seasonal analysis of the common 128 bird species shows that 9 species are winter visitors, 60 species are summer visitors, 33 species are sedentary and 26 are passage visitors. This analysis notice the importance of area during the migration periods (March - April; August - October), because the lakes complex is part of the Great Eastern Birds' Migration Route. This perimeter is also very important during the

summer – there were recorded 81 breeding bird species on the lake' surface and around it. The taxonomic distribution (Sibley & Ahlquist, 1990/1995) is presented in the table 3.

Table 3 – The taxonomic distribution of the birds' fauna recorded on the Strachina Lakes Complex

Order	Family	Number of species
Galliformes	Phasianidae	3
Anseriformes	Anatidae	19 (4 accidental species)
Piciformes	Picidae	1
Upupiformes	Upupidae	1
Coraciiformes	Alcedinidae	1
	Coraciidae	1
	Meropidae	1
Cuculiformes	Cuculidae	1
Strigiformes	Strigidae	1
Columbiformes	Columbidae	3
Gruiformes	Rallidae	6
	Gruidae	1
Ciconiiformes	Scolopacidae	9
	Charadriidae	5 (1 accidental species)
	Laridae	7
	Accipitridae	9 (4 accidental species)
	Falconidae	3
	Burchinidae	1 (accidental species)
	Podicipedidae	4 (1 accidental species)
	Phalacrocoracidae	2
	Ardeidae	9
	Treskiornithidae	2
	Pelecanidae	1 (accidental species)
	Ciconiidae	2
	Gaviidae	2
Passeriformes	Laniidae	2
	Corvidae	4
	Bombycillidae	1
	Muscicapidae	8 (1 accidental species)
	Sturnidae	1
	Certhiidae	1
	Paridae	3
	Aegitalidae	1
	Hirundinidae	2
	Sylvidae	11 (1 accidental species)
	Alaudidae	2
	Passeridae	6
	Fringillidae	6

As we see in this table, the small singing birds are well represented (48 species), as well as the ones that are typically for the wet habitats (3 orders with 70 species, representing 53% from the whole bird's fauna). All these species are reclaiming a number of 10 habitats: thick reed plots; salty soils vegetation and stagnant waters; abandoned grazing fields; arid lawns; temperate lawns; mosaic agricultural areas; shrubs areas; tree lines; seasonal and permanent swamps; agricultural areas intensive cultivated. We can notice, also, the existence of real routes from the feeding sites to the breeding areas and backwards. All these types of habitats represent important refuges for all bird species that appear in this area. Identifying and counting the effectives of bird species, we could make an analysis that reports, in the last few years, an easy decrease of the birds' population, due the human pressure.
The phenology analyses give five bird categories: 6% winter visitors, 23% sedentary species, 43% summer visitors, 18% passage visitors and 10% accidental species (figure 1).

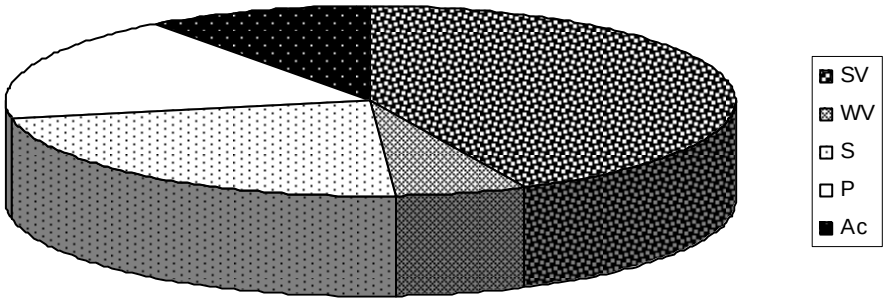

Figure 1 – Phenology analyses of the birds' fauna

The birds' effectives' trends show that the birds have an amazing mobility. Following the bird' species' dynamic throughout the seasons we could notice that during the winter time the bird species appear like winter guests, in small numbers, because the lake froze and birds prefer the Danube course in theses conditions. The list of winter guests counts 10 species that are not always found in the area (that leave when the lake froze); juts when the liquid water exists, birds like *Gavia stellata*, *Gavia arctica*, *Anser erythropus*, *Branta ruficollis*, *Buteo buteo*, *Buteo lagopus*, *Cygnus cygnus*, *Mergus serrator* or *Podiceps auritus* are reclaiming the resting and feeding potential of the area. The dominant species of this season is *Anas plathyrynchos* (sedentary species in the area).

The springtime is dominated by the pre-reproductive migration of birds. The lakes' water becomes great places for birds' resting and feeding. The swampy areas are extending, offering new favourable sites for the water and shore birds. Dominant are the species of geese and ducks that are heading towards the North of Europe following the Great Eastern Route of Migration, using this "bottle-neck", in March and

April. The spring is also important because it marks the beginning of the reproduction season for the majority of the sedentary species and summer guests. In May, birds laid their eggs in the suitable habitats, the breeding species representing 57% from the recorded birds' fauna (figure 2). In this period, there can be heard the territorial songs of birds like: *Coturnix coturnix*, *Phasianus colchicus*, *Crex crex* and *Himantopus himantopus*.

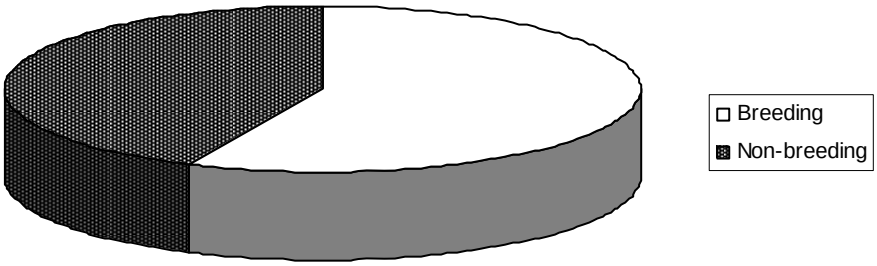

Figure 2 – The breeding status of the birds' fauna

In the summer time, the activity of birds is centred on the protection, hatching and the chicks rising. Water birds have a small advantage because in June - July is registered a maximum of the food availability and temperature values. The small and singing birds, which are nesting in the bushes, reed plots and plantations, are just at the debut of the hatching period. Many of the recorded breeding birds are nesting in isolate pairs or in small groups. During the study we noticed an exception: in May - June 2000 and 2001, in the swamps areas from the southern part of the lakes complex, we recorded a colony of *Himantopus himantopus* with 26, respectively, 21 pairs. During the summer, were observed, also, some interesting species that use this perimeter like feeding site - *Pelecanus onocrotalus*, *Haliaeetus albicilla*, *Haematopus ostralegus* and *Cettia cetti*. This period is dominated by the sedentary species and the summer guests (that, at the end of August, are beginning fly to the south, especially the storks that are forming flocks of thousands of individuals).

The autumn migration is slower than the spring migration, the birds are stopping in the area to rest and to reclaim the food resources found here. The autumn period is dominated by the migration during which the summer guests from North of Europe are flying towards South, increasing the populations of the species founded in this area. Is the time when in the lakes' perimeter, appear some very rare species like *Aythya fuligula* or *Pernis apivorus*. Based on our observations, the migration pick is reached in September.

On the birds' species list, we found 18 species of EU community interest, 47 birds species that needs strict protection and 33 species from the Red List (for it's conservation needs a Special Protected Area).

On this basis in 1997, the Romanian Ornithological Society - Tandarei Branch managed to propose the Strachina Lakes Complex as an Important Bird Area in Romania. This proposal was considered by the Romanian Ornithological Society according to the I.B.A. Official report no.6/October 1997, when it was counted between the 44 I.B.A. from Romania (that appear in the I.B.A. Book edited by BirdLife International in March 2000). In year 2002, the proposal got it's approval from the Natural Monuments Comity of the Romanian Academy (no.297/December 23.2002) and from Ialomita County Council (no.17/March 24.2003), becoming an Important Bird Area of which custody is held by our work group. In the year 2003, we managed to gather all the necessary documentations and propose the Strachina Lakes Complex as a Special Protected Area, status obtained in 2004, now being part of the Romanian Network NATURA 2000.

The area has it own management plan and activity regulation and nowadays it is the main objective in an EECONET project. First we managed to obtain a contract of leasing for 20 years for a surface of 22,8 ha to enlarge the protected area (which included only the water not the ground around it). Next, we intend to increase it popularity among the local community and visitor public by opening an information point at Valea Ciorii town hall. In the area, we will build an observation point which will help us to supervise the whole area. Moreover, this area will become a part of an ecological tourism route.

CONCLUSIONS

Generally, the seasonal distribution of the bird species in the area is unequal. In the winter time, the avifauna is pour, most of the species being present during the migration, especially at it beginning.

For having a better image of the species founded on the lake, it was necessary the identification of all the routes in the area, their degree of accessibility and how are they are used by the local community. Through this, we got to a better knowledge of the area and we found the most favourable way of access, allowing us to do the field observations without disturbing the birds. This also helped us identifying the most important resting and feeding sites for birds: the southern part of Strachina I Lake, the northern and western part of Strachina II Lake and the northern part of Valea Ciorii Lake.

Also, we managed the general biodiversity's monitoring of the area, to point out the positive and negative evolutions of the species, to identify the active periods and the behaviour of birds during mating period, to observe the relation within and between the species.

Acknowledgement

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Table 1 - The list of common species present in the area of the Strachina Lakes Complex

No.	Species	Phenology status	Habitat	Density	Nutrition	Breeding status	Presence (on months)
1.	Phasianus colchius	S	TER	+++++	TER	+	All year round
2.	Coturnix coturnix	SV	TER	+++++	TER	+	March - September
3.	Perdix perdix	S	TER	+++	TER	+	All year round
4.	Cygnus olor	S	AQ	++	AQ	+	All year round
5.	Anser albifrons	WV	AQ	++++	AQ	-	November - March
6.	Anser anser	S	AQ	++	AQ	-	All year round
7.	Anser erythropus	WV	AQ	+++++	AQ	-	November – March
8.	Branta ruficollis	WV	AQ	+++	AQ	-	November - March
9.	Tadorna tadorna	SV	AQ	+++	AQ	+	March - August
10.	Anas strepera	P	AQ	++	AQ	-	March - April/September - October
11.	Anas acuta	P	AQ	+++	AQ	-	March - April/September - November
12.	Anas crecca	P	AQ	+++	AQ	-	March - April/September - November
13.	Anas plathyrynchos	S	AMP	+++++	AQ	+	All year round
14.	Anas querquedula	SV	AQ	++++	AQ	+	March - September
15.	Anas clypeata	P	AQ	++	AQ	-	March - April/September - November
16.	Aythya nyroca	SV	AMP	+++	AQ	+	March - September
17.	Mergus merganser	P	AQ	++	AQ	-	March - April/September – October
18.	Aythya farina	P	AQ	++	AQ	-	March - April/September – November
19.	Dendrocopus major	S	T	+++	T	+	All year round
20.	Upupa epops	SV	T	++++	T	+	April - August
21.	Coracias garrulous	SV	AMP	+++	M	+	April – August
22.	Merops apiaster	SV	T	++++	M	+	April – August

23.	Alcedo atthis	SV	T	+++	AQ	+	April - September
24.	Cuculus canorus	SV	AMP	+++	M	+	April - August
25.	Athene noctua	S	T	++	M	+	All year round
26.	Columba palumbus	WV	T	++++	T	-	November - December
27.	Streptopelia decaocto	S	T	++++	T	+	All year round
28.	Streptopelia turtur	P	T	++	T	-	April – May/September - October
29.	Grus grus	P	AMP	+++	AQ	-	March – April/September – October
30.	Crex crex	SV	AMP	++	M	+	April – August
31.	Gallinula choropus	SV	AMP	+++++	AQ	+	March - September
32.	Fulica atra	SV	AQ	+++++	AQ	+	March - November
33.	Rallus aquaticus	SV	AMP	++	AQ	+	April - August
34.	Porzana porzana	SV	AMP	+	M	-	April - August
35.	Porzana parva	SV	AMP	++	M	+	April - August
36.	Calidris minuta	P	AMP	++	AQ	-	March – April/September – October
37.	Gallinago gallinago	P	AMP	+++	AQ	-	March – April/September – October
38.	Gallinago media	P	AMP	+++	AQ	-	March – April/September – October
39.	Numenius arquata	P	AMP	++	AQ	-	March – April/September – October
40.	Tringa stagnatilis	P	AMP	+++	AQ	-	March – April/September – October
41.	Tringa ochropus	SV	AMP	+++	AQ	+	March - September
42.	Tringa glareola	SV	AMP	++	AQ	+	March - September
43.	Phylomachus pugnax	P	AMP	+++	AQ	-	March – April/September – October
44.	Limosa limosa	SV	AMP	+++	AMP	-	May - August
45.	Recurvirostra avoseta	P	AQ	+++	AQ	-	March – April/September – October
46.	Himantopus himantopus	SV	AQ	++++	AQ	+	April - August
47.	Vanellus vanellus	SV	AMP	++++	AQ	+	March - September

48.	Charadrius dubius	P	AMP	+++	AQ	-	March – April/September – October
49.	Larus cachinnans	S	AQ	+++	AQ	-	All year round
50.	Larus ridibundus	S	AQ	+++	AQ	+	All year round
51.	Larus canus	P	AQ	++	AQ	-	March – April/September – October
52.	Sterna hirundo	SV	AQ	+++	AQ	-	April - August
53.	Chlydonias niger	P	AQ	++	AQ	-	August - October
54.	Chlydonias hybridus	SV	AQ	+++	AQ	-	April - August
55.	Chlydonias leucopterus	P	AQ	++	AQ	-	April - August
56.	Buteo buteo	WV	T	+++	T	-	November - March
57.	Buteo lagopus	WV	T	++	T	-	November - March
58.	Accipiter gentiles	S	T	++	M	+	All year round
59.	Accipiter nisus	S	T	+	M	+	All year round
60.	Circus aeruginosus	SV	AMP	+++	AMP	+	March - October
61.	Falco tinnunculus	S	T	+++	T	+	All year round
62.	Flaco peregrinus	P	T	++	T	-	March – April/September – October
63.	Flaco subbuteo	P	T	++	T	-	March – April/September – October
64.	Podiceps cristatus	SV	AQ	+++	AQ	+	March - October
65.	Tachybaptus ruficollis	SV	AQ	+++	AQ	+	February - October
66.	Podiceps grisegena	SV	AQ	+	AQ	+	May - September
67.	Phalacrocorax carbo	S	AMP	++++	AQ	-	All year round
68.	Phalacrocorax pygmeus	SV	AQ	++	AQ	-	March - October
69.	Egretta garzetta	SV	AQ	++	AQ	-	April - September
70.	Casmerodius albus	P	AQ	++	AQ	-	March - April
71.	Ardea cinerea	SV	AQ	+++	AQ	+	March - September
72.	Ardea purpurea	P	AQ	++	AQ	-	March – April/September – October

73.	Botaurus stelaris	SV	AQ	++	AMP	-	June – August
74.	Nyctycorax nyctycorax	SV	AQ	+++	AQ	+	March - September
75.	Ardeola raloides	P	AQ	+++	AQ	-	March – April/September – October
76.	Ixobrychus minutus	SV	AQ	++	AQ	+	April - August
77.	Plegadis falcinelus	SV	AQ	+++	AQ	-	May - August
78.	Platalea leucorodia	SV	AQ	++	AQ	-	May - August
79.	Ciconia ciconia	SV	T	++++	M	+	March - September
80.	Ciconia nigra	P	T	+++	M	-	March - April/September
81.	Gavia arctica	WV	AQ	++	AQ	-	November - February
82.	Gavia stellata	WV	AQ	++	AQ	-	November - February
83.	Lanius collurio	SV	T	++	M	+	April - August
84.	Lanius minor	SV	T	++	M	+	April - August
85.	Corvus frugilegus	S	T	+++++	M	+	All year round
86.	Corvus corone cornix	S	AMP	+++++	M	+	All year round
87.	Oriolus oriolus	SV	T	+++	M	+	April - August
88.	Pica pica	S	T	+++++	M	+	All year round
89.	Bombycilla garrulous	P	T	++	M	-	April – May/September - October
90	Turdus merula	S	T	++	M	+	All year round
91.	Erithacus rubecula	SV	T	+++	T	+	April - August
92.	Luscinia megarhynchos	SV	T	+++	T	+	April - August
93.	Oenanthe oenanthe	SV	T	++	T	+	April - August
94.	Saxicola rubetra	SV	T	+++	T	+	April - August
95.	Saxicola torquata	SV	T	++	T	+	April - August
96.	Ficedula albicollis	SV	T	++	M	+	April - August
97.	Sturnus vulgaris	SV	T	+++++	M	+	March - September

98.	Troglodytes troglodytes	S,WV	T	+++	T	-	All year round
99.	Parus major	S	AMP	+++++	M	+	All year round
100.	Parus palustris	S	T	++	M	+	All year round
101.	Parus caeruleus	S	AMP	+++++	M	+	All year round
102.	Aegitalus caudatus	SV	AMP	+++	M	+	April - August
103.	Hirundo rustica	SV	T	+++++	M	+	April - August
104.	Riparia riparia	SV	T	+++++	M	+	April - August
105.	Acrocephalus arundinaceus	SV	AMP	++++	AQ	+	April - August
106.	Acrocephalus scirpaceus	SV	AMP	++	AQ	+	April - August
107.	Acrocephalus palustris	SV	AMP	++	AQ	+	April - August
108.	Locustella fluviatilis	SV	AMP	+++	AQ	+	April - August
109.	Locustella luscinioides	SV	AMP	++	AQ	+	April - August
110.	Phylloscopus collybita	SV	T	++	M	+	April - August
111.	Phylloscopus sibilatrix	SV	AMP	++	M	+	April - August
112.	Phylloscopus trochilus	SV	T	++	M	+	April - August
113.	Sylvia borin	SV	AMP	++	M	+	April - August
114.	Sylvia communis	SV	AMP	+++	M	+	April - August
115.	Alauda arvensis	SV	T	++++	T	+	April - August
116.	Galerida cristata	S	T	+++++	T	+	All year round
117.	Passer domesticus	S	T	+++++	M	+	All year round
118.	Passer montanus	S	T	+++++	M	+	All year round
119.	Motacilla alba	SV	AMP	++++	AQ	+	April - September
120.	Motacilla flava	SV	AMP	+++	AQ	+	April – September
121.	Anthus campestre	SV	T	+++	M	+	April - August
122.	Anthus pratensis	SV	T	+++	M	+	April - August

123.	Fringilla coelebs	S	T	+++++	M	+	All year round
124.	Carduelis carduelis	S	T	+++++	T	+	All year round
125.	Carduelis chloris	S	T	+++	T	+	All year round
126.	Miliaria calandra	S	T	++++	T	+	All year round
127.	Emberiza schoeniclus	S	AMP	+++	M	+	All year round
128.	Coccothraustes coccothraustes	S	T	++	M	-	All year round

Legend: Phenology status: S - Sedentary species, WV - Winter visitor, SV - Summer visitor, P - Passing species; Habitat: T - Terrestrial, AQ - Aquatic, AMP – Amphibious; Density: + - Very rare, ++ - Rare, +++ - Moderate, ++++ - Frequent, +++++ - Very frequent; Nutrition: AQ - Aquatic, V - Various, AMP - Amphibious, T - Terrestrial

Table 2 - The list of accidental species recorded on the Strachina Lakes Complex

No.	Species	Growth stage	Number of individuals	Presence
1.	Cygnus Cygnus	Immature and adults	132	November - February
2.	Anser fabalis	Adults	16	February, November - December
3.	Aythya fuligula	Adults	39	April, July, August - October
4.	Mergus senator	Adults	2	January
5.	Haematopus ostralegus	Adults	16	June, July, September
6.	Haliaeetus albicilla	Adult	1	June
7.	Aquila heliaca	Adult	1	January
8.	Buteo ruffinus	Adult	1	July
9.	Pernis apivorus	Adults	33	June
10.	Podiceps auritus	Adults	8	January – December
11.	Burhinus oedicnemus	Adults	2	June, August
12.	Pelecanus onocrotalus	Immature and adults	36	May - August
13.	Ficedula parva	Adults	3	June – August
15.	Cettia cetti	Adults	4	May - July