

CONTRIBUTIONS TO KNOWLEDGE AVIFAUNA OF THE BRĂILA LACU SĂRAT AREA (BRĂILA COUNTY, ROMÂNIA)

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Abstract: Our study shows the terrestrial and aquatic avifauna reported in-between 2002 - 2011 in the area of Lacu Sărat, Brăila. Here are analyzed aspects related to the systematics, phenology, geographical origin, and dynamics of the populations. There have been observed a number of 127 species, out of which 54 aquatic and 73 terrestrial. The presence of the aquatic ecosystem attracts during the migration periods (spring, fall) numerous aquatic species. Out of these, 18 species are comprised by Annex I Birds Directive. The spatial distribution along with the presence of the species in a certain habitat is in tight connection with the ecological requirements of these ones.

Keywords: aquatic birds, aquatic ecosystems, terrestrial birds, terrestrial ecosystems

Introduction:

Lacu Sărat, Brăila lies in Brăila County in the south-west of Brăila town. The main feature of the area is given by the existence of the lake bearing high water salinity and of the surrounding vegetation of the halophile type. A synthesis regarding the studies carried out in time on the origin of the lake, the geography, geology, flora and invertebrates' fauna was undergone by D. Albu (1993). With a view to the ornithological fauna of the Lacu Sărat we have little data in the specialty literature: Avedic and Vernescu 2008; Onea et al. 2009; Vernescu 2010. All information refers to the autumn migration of birds stationed in Lacu Sărat II area. The largest herds are found in *Cygnus olor*, *Anas platyrhynchos*,

Tringa totanus, *Tringa erythropus*, *Larus ridibundus*.

Also, ornithological research in neighbouring or similar areas from a geographical point of view was conducted in some spots of Braila County (Tătaru, Jirlău, Ianca, Colțea, Plașcu, Chiobășești, Balta Albă, Movila Miresii). Thus, Papadopol (1974), A. Petrescu (2000) and Onea (2006b) report at Lake Tătaru the presence of some protected rare aquatic species: *Recurvirostra avosetta*, *Glareola pratincola*, *Tringa totanus*, *Vanellus vanellus*, *Larus minutus*, *Chlidonias hybridus*. The observations undertaken in the region of Lakes Jirlău (Papadopol 1972; Onea 2006a), Ianca, Colțea, Plașcu, Chiobășești, Balta Albă (Papadopol 1971, 1972) indicate the existence of other distinct species, too, apart from those already enumerated: *Podiceps nigricollis*, *Netta rufina*, *Charadrius alexandrinus*, *Tadorna tadorna*, *Cygnus olor*, *Philomachus pugnax*, *Acrocephalus arundinaceus*. The same species were observed in the salt lake Movila Miresii by Onea (2011). The presence of these species

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in similar ecosystems to the existent one at the Lacu Sărat offer us the possibility to be able to do certain correlations regarding the avifauna of the area observed by us.

The main aim of our research was that of monitoring the aquatic avifauna, observing certain ecological aspects (profusion, frequency, spatial distribution the dynamics of the populations). In parallel it has also been run the study of the terrestrial ecosystems in the immediate vicinity. In this article it is displayed only an overall (qualitative and quantitative) characterisation of the reported ornithological flora and fauna. It is summed up data in relation to systematics, phenology, geographical origin, annual distribution and dynamics of the species and populations.

Materials and methods:

The study of the avifauna in the region of the Lacu Sărat was developed from 2002 through 2011. Structurally the area is divided into two sectors (S I and S II) bordered by a secondary road of link between the two main roads of the county (Fig. 1).

The aquatic ecosystems are represented by Lacu Sărat I (LS I) and Lacu Sărat II (LS II). Separated by the secondary road, the major difference between the two lakes is given by the salinity of the water, higher in LS I (200g/l) and almost brackish in LS II (D. Albu 1993). In order to monitor the aquatic avifauna, it was used direct fixed-point observation or by betaking along the banks of the two lakes.

The terrestrial ecosystems are flanked by the existence of six areas of vegetation:

- The mixed forest occupies a big surface spreading on both sides of LS I. The forest lying in the south-east, east and north-east still preserves the natural feature of meadow forest, while the part of the forest lying to the north and to the west is much anthropically affected, featuring plantation-like organisation type (on rows). The

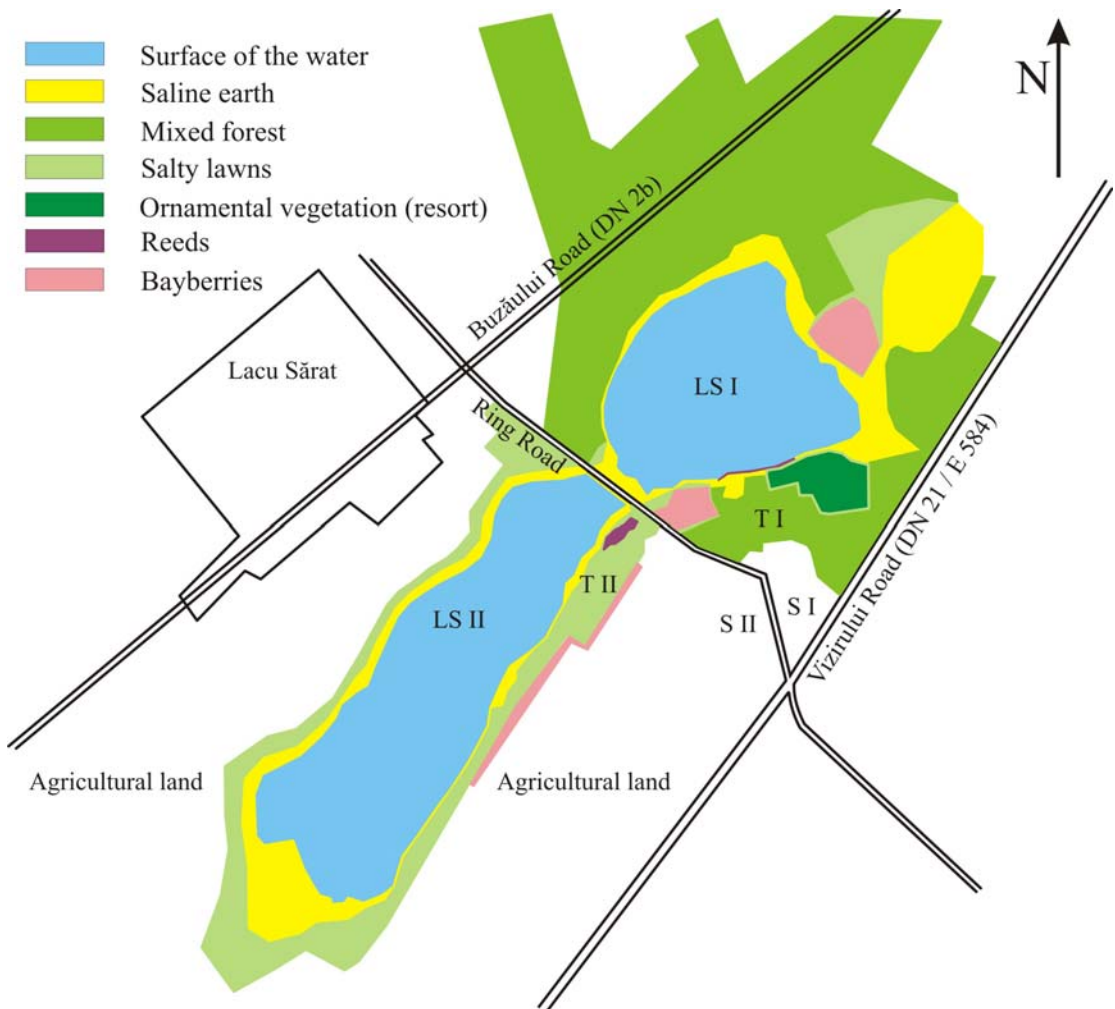
characteristic wood species are *Quercus pedunculiflora* (pedunculate oak), *Acer pseudoplatanus* (sycamore maple), *Fraxinus excelsior* (European ash), *Populus alba* (white poplar), *Populus tremula* (European aspen).

- The ornamental vegetation is to be found only within the area of the resort Lacu Sărat Brăila, comprising both wood (*Tilia sp.* - linden, *Catalpa bignonioides* - southern catalpa, *Fraxinus excelsior*, *Robinia pseudacacia* - black locust, *Sophora japonica* - japanese pagoda tree, *Malus sylvestris* - european crab apple, *Thuja sp.* - arborvitae) as well as grassy species (*Salvia sp.* - sage, *Petunia sp.* - petunia, *Forsythia europaea* - forsythia, *Berberis sp.* - barberry).
- Vegetation of saline earth is spread around the two lakes with a higher concentration in the north-east part of LS I. In general the soil is salty-sandy, the vegetal associations being weakly represented. The characteristic species are *Salicornia herbacea* (jointed glasswort) and *Suaeda maritima* (herbaceous seepweed).
- Salty lawns are steeped around LS II, surrounding the salty vegetation. Smaller areas are to be found in the south and north-east part of LS I. The characteristic species are represented by *Trifolium fragiferum* (strawberry clover), *Cynodon dactylon* (bermudagrass), *Festuca pseudovina* (pseudovina), *Puccinellia limosa* (alkali grass)
- Reeds occupy a rather small surface and are set in the south-east part of LS I as well as in the north-east part of LS II, in the area of a fresh-water temporary pond. The characteristic species is *Typha angustifolia* (narrowleaf cattail).
- Bayberries in sector S I, are to be found in the north-east and south-

east part of LS I, and in sector S II on the east boundary between the salty lawns and the agricultural lands. The specific species are *Hyppophae*

rhamnoides (sallow thorn), *Elaeagnus angustifolia* (russian olive) and rarely *Tamarix ramosissima* (saltcedar).

Figure no. 1 Types of ecosystems in the region of Lacu Sărat Brăila (original): LS I and LS II - aquatic ecosystems; T I and T II - terrestrial ecosystems; S I and S II - sectors of study.



Monitoring the terrestrial avifauna was carried out along with the aquatic one, being used direct observation and the same betaking routes. Only in the case of the habitat formed by the mixed forest it was followed a route through the forest's edge.

In interpreting data it was taken into account the taxonomic and ecologic reports used in the Romanian literature (Cătuneanu

et al. 1978; Radu 1979; Munteanu 2002). Acknowledging and description of the habitats and vegetation was done by Donița et al. (2005). The populations were expressed through absolute abundance. The data transposition in graphic form was done by aid of Microsoft Graph (Microsoft Office Word 2003).

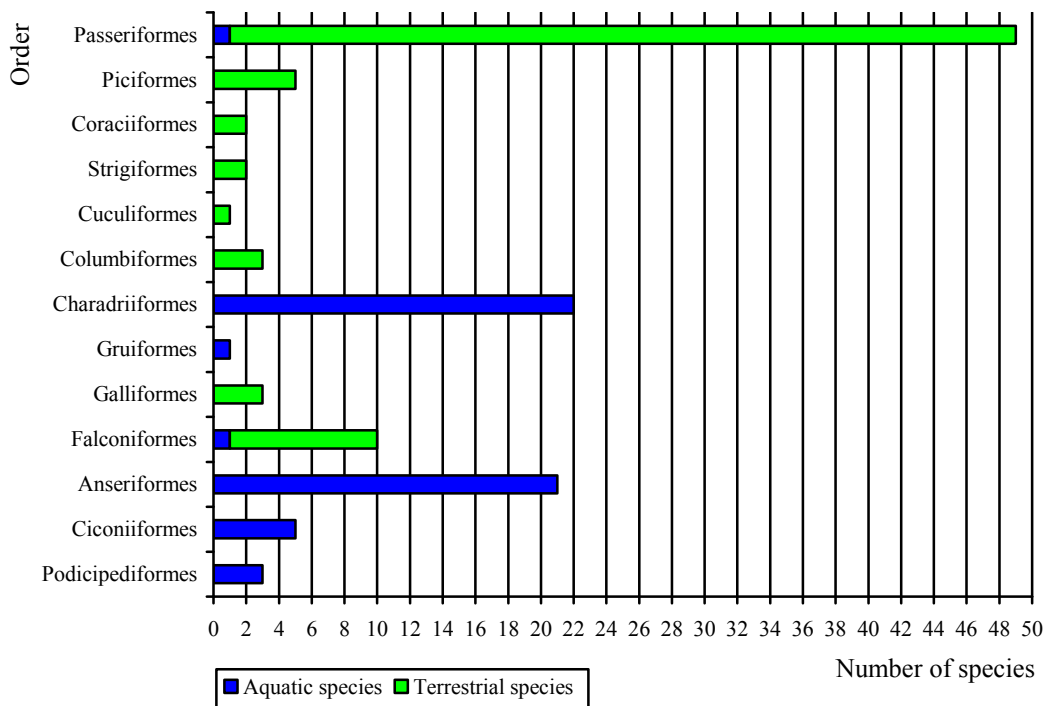
Results and discussion:

From 2002 through 2011 a number of 127 bird species were reported in the area of Lacu Sărat, Brăila. Some aspects related to the systematic framing, and phenological, ecological, zoogeographical, reproductive and conservation types are presented in Table 1 (Annexes).

From the systematic point of view, the studied species belong to 36 families and 13

orders; ecologically 73 species belong to the terrestrial ecosystems, and 54 to the aquatic ones. The aquatic species are specific to the inferior systematic orders, better represented being the Anseriformes (21 species) and the Charadriiformes (22 species) (Fig. 2). For the terrestrial species the order Passeriformes, with the 17 families, comprises 49 species, representing 67 % of their total.

Figure no. 2 Spreading of the species is registered on orders in the area of Lacu Sărat Brăila



Phenologically the species were included in eight groups according to their presence in the area (Fig. 3).

The great majority of the species are summer guests (OV - 27 %), followed by the sedentary ones (S - 20 %), summer guests in passage (OVP - 17 %) and partially migratory (MP - 15 %); the other groups have a lower percentage (winter guests and/or in passage - OIP 10 %; passage - P 9 %; passage and/or winter guests and/or

summer guests - POIOV 1 %; accidentally - AC 1 %).

In accordance with the geographical origin of species these were assigned in the following groups (Fig. 4): European (E - 42 %), Transpalearctic (TP - 21 %), Mongol (MO - 11 %), Siberian (S - 12 %), Mediterranean (M - 7 %), arctic (A - 5 %) and Chinese (CH - 2 %). Reproductively the number of the nesting species evens that of the non-nesting ones (63); out of the total of

the nesting species only four belong to the aquatic birds (*Ciconia ciconia*, *Recurvirostra avosetta*, *Vanellus vanellus* și *Acrocephalus arundinaceus*).

Figure no. 3 The phenologic recording of the species in the region of Lacu Sărat Brăila

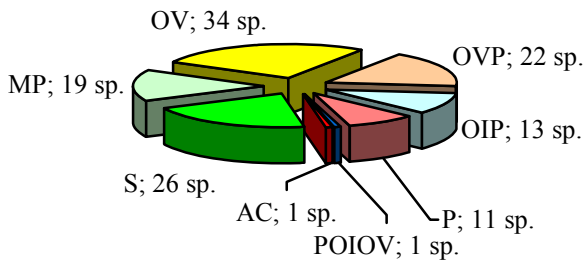
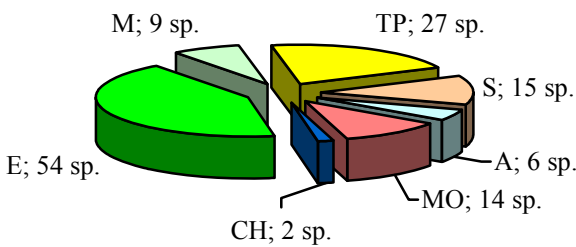


Figure no. 4 The geographical origin recording of the species in the region of Lacu Sărat Brăila



For one species only (*Circus aeruginosus*) its nesting in the area could not have been fully confirmed, being however considered a potentially nesting bird as a result of its observation during the entire reproduction season. Throughout the 10 years of study there were reported annual values of the approximately equal number of species, with a slight increase toward the end of the period (Fig. 5). For the terrestrial species it was recorded a maximum of 69 species in 2008 and 2009, and for the aquatic ones a maximum of 46 species in 2009. As for the annual values of the registered populations (Fig. 6), it is noticed a similar evolution to the existent one in the case of the species number; also, compared to the first study period, a major increase of these in-between 2008-2011 is obvious. Following the dynamics of the monthly enrolments, it is

noticeable a cycle of the recordings, with the presence of some maximum peaks throughout one year (Fig. 7, Annexes).

For the aquatic birds the peak periods are marked by spring and fall migrations (April, respectively October), while for the terrestrial species August is the one during which the populations reach a maximum upper limit. Throughout the entire period there were recorded a number of 41,348 exemplars, out of which 16,525 in the area of the two lakes (LS I and LS II), and 24.823 in the neighbouring terrestrial ecosystems (P I and P II). The spatial distribution of the species, respectively of the populations, is different for each study area and ecosystem in part. Hence in the study area II the abundance of aquatic birds is higher (LS II – 90 % out of the total of the aquatic species), and of the terrestrial ones lower (P II – 15 %

out of the total of the terrestrial enrolment is reversed (LSI - 10 %; PI - 85 %). In the area of study I, the situation

Figure no. 5 Annual values of the number of species recorded in the area of Lacu Sărat Brăila

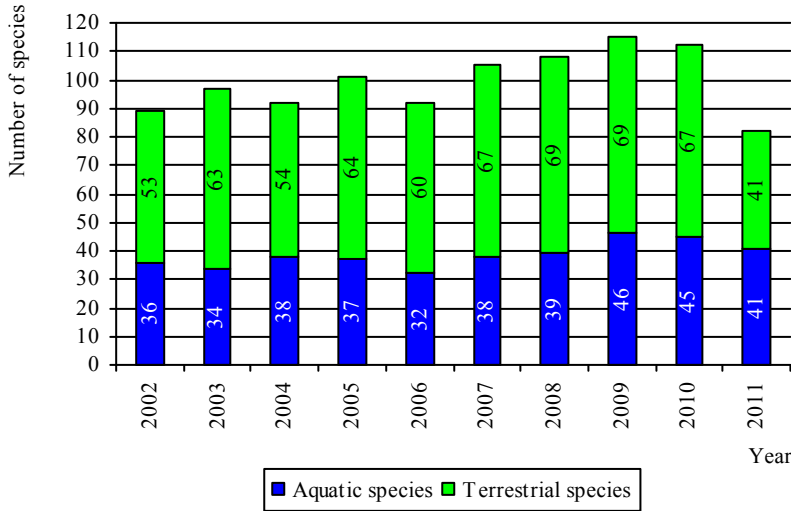
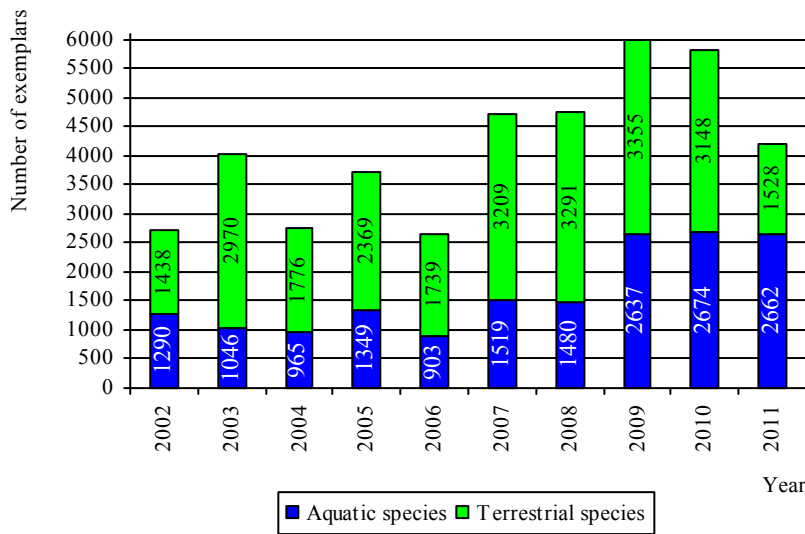


Figure no. 6 Annual values of the number of the population recorded in the area of Lacu Sărat Brăila



According to the status of preservation of bird species at European level (BirdLife International 2000, 2004; European Parliament Council 2010), 70 species enjoy a favourable status. The rest of 57 species are on different threat levels, and of these 28 are

mentioned in Annex I, Birds Directive. It is worth highlighting the fact that 64 % of the species requiring special attention (Annexe 1) belong to the aquatic birds.

The presence in the area of the two main types of (the aquatic and terrestrial)

ecosystems determine a distinct and uneven distribution of the species. The species' distribution is tightly related to the existence of some favourable habitats for nourishing, reproduction or rest. This aspect is quite well reflected, were we to analyse the existent situation of the two study sectors. Therefore, in sector I, the chemical composition of the water in LS I, the conformation and structure of the banks, as well as the anthropic influences, as a result of the activities of the resort, represent factors of limitation of the aquatic avifauna. In these conditions there were observed only a number of 18 species (respectively 33 % out of the total of the aquatic species). There were defined two sectors of bird gathering during the migration periods: one to the north/ north-east (the area of the bank) for charadriiforms (*Himantopus himantopus*, *Recurvirostra avosetta*, *Charadrius dubius*, *Charadrius alexandrinus*, *Limosa limosa*), and another one to the south (the area of the bank) again for the limicoline or mud-dweller species, and south-west (the surface of the water) for the Black-necked Grebe and the little grebe (*Podiceps nigricollis*, *Tachybaptus ruficollis*), goose and ducks (*Cygnus olor*, *Cygnus cygnus*, *Tadorna tadorna*, *Anas platyrhynchos*, *Anas acuta*, *Aythya fuligula*, *Bucephala clangula*), coots (*Fulica atra*) and seagulls (*Larus ridibundus* and *Larus cachinnans*). The sole species which are to be found during summer, too, are the two seagull species. As a nesting species only the Great Reed Warbler (*Acrocephalus arundinaceus*) is present in the south-west reeds area. For all species the populations are reduced (2-10 exemplaries), more numerous being only the seagulls, but without overcoming 30-50 exemplaries (especially during the cold season or the migration periods).

In LS II, the structure of the aquatic ecosystem is totally different. As a result of a greater input of fresh water, the chemical composition of the water makes out of PS II a lake with reduced salinity. This aspect has a beneficial influence on the avifauna, being reported the presence of all the aquatic

species also in numerous populations. The majority of the charadriiforms prefer the east and south-east bank, whilst the geese gather on the west bank, and the ducks and the grebes take to the central part of the lake (Avedic and Vernescu 2008; Onea et al. 2009; Vernescu 2010). The only aquatic hatching species are the Pied Avocet (*Recurvirostra avosetta*) and Northern Lapwing (*Vanellus vanellus*), which use the sandy bank with salty area vegetation set in the south and south-east as nests settlement habitat. As hatching birds the two species had been observed starting with the year 2006 consisting of a number of 1-2 pairs. Observing the dynamics of the populations of aquatic species, it is obvious that the presence of the two species as nesting birds in the area coincides with the debut of a period of numeric increase both of the species as well as of the populations. There is the possibility that this phenomenon be related to certain changes occurred in the structure of the habitats in the area, but unable to make comments in this respect. In the north-east part of the study sector II, in the reeds developing throughout the surface of the temporary wetland/lake, there nest 1-2 pairs of the Great Reed Warbler (*Acrocephalus arundinaceus*).

Concerning the terrestrial avifauna, it is distributed according to the identified terrestrial ecosystems. Interesting is the fact that in the terrestrial ecosystems of S I there were reported all recorded species, while in T II of S II approximately 70 % of their number. The difference is given by the existence in S I of certain terrestrial habitats which are not to be found in S II. Most of the S I terrestrial species are found within the region of the mix forest and of the shrub - or bush-like ornamental vegetation proper to the resort. Within the resort there are numerous species which adapted to the anthropic climate conditions: *Streptopelia decaocto*, *Athene noctua*, *Hirundo rustica*, *Delichon urbica*, *Passer montanus*, *Passer domesticus*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corone cornix*, *Pica pica*. All identified piciforms nest not only in the

region of the forest, but also in the old trees of the resort, but they were not observed in S II, where the nourishment and reproduction conditions are not proper. Throughout the cold season only two species of winter guests make their presence felt: Hen Harrier (*Circus cyaneus*) and Waxwing (*Bombycilla garrulus*). If the Hen Harrier is observed mainly in the trees on the edge of the forest, the Waxwing frequently appears in box thorn groves in the south of LS I. Other species are sedentary or partially migratory, but belong to the higher areas where they also nest. This category comprises *Accipiter gentilis*, *Accipiter nisus*, *Turdus pilaris*, *Regulus regulus*, *Pyrrhula pyrrhula*, which come in the area in winter in search for food and shelter. The salty terrestrial habitat is the scarcest in species due to the structure of the vegetation. The commonest are the Corvidae or the crow family, starlings (*Sturnus vulgaris*) and sparrows (*Passer domesticus* and *Passer montanus*). From the galliforms, *Coturnix coturnix* and *Perdix perdix* populate the saline lawns of the north-east of LS I, but the number of the exemplaries is very much reduced. There is also the possibility of their presence on the agricultural lands of S II, but not confirmed yet. The pheasant (*Phasianus colchicus*) is frequent in both sites of the forest, more abundant in the north-west part of S I. This aspect appears natural if we take into account the fact that in this region there is a rising pheasant farm.

Most of the aquatic species recorded in distinct wet areas of the county (Papadopol 1971, 1972, 1974; A. Petrescu 2000; Onea 2006a, 2006b) are also found in the aquatic ecosystems in the area of Lacu Sărat, Brăila. This thing indicates the fact that in similar environment conditions certain species can be considered as species of recognition. The fact that Lacu Sărat, Brăila is Sit Natura 2000 as an area of community importance (ROSCI 0307) represents an acknowledging of the importance of the area in preserving saline habitats. On the one hand, having identified within the aquatic ecosystems some unfavourable conservation status

species at European level and which are included in Annex I of Birds Directive (Tab. 1) raises the issue of expanding the protection to the avifauna. The species in decline (*Podiceps nigricollis*, *Anas acuta*, *Anas clypeata*, *Aythya ferina*, *Aythya fuligula*, *Charadrius alexandrinus*, *Gallinago gallinago*, *Numenius arquata*, *Tringa erythropus*, *Tringa totanus*), the vulnerable ones (*Anas querquedula*, *Aythya nyroca*, *Vanellus vanellus*, *Philomachus pugnax*, *Limosa limosa*), rare (*Mergus albellus*) or the endangered ones (*Aythya marila*) may be regarded as the scientific foundation in declaring the area as a special one of avifaunistic protection.

Conclusions:

The presence of a high number of aquatic and terrestrial species throughout both migration periods and reproduction season or in wintertime confirm the fact that Lacu Sărat, Brăila area is one of special avifaunistic potential. Spring and fall migration represent peak moments for the migratory aquatic birds. For the terrestrial species of summer guests the peak figure is reached at the end of the reproduction period and preparing for the fall migration. The species distribution is conditioned by the ecological requirements and the populated ecosystems.

Rezumat:

CONTRIBUȚII ADUSE LA CUNOAȘTEREA AVIFAUNEI DIN ZONA LACU SĂRAT BRĂILA (JUDEȚUL BRĂILA, ROMÂNIA)

Studiul nostru prezintă avifauna acvatică și terestră semnalată în perioada 2002-2011 în zona Lacu Sărat Brăila. Sunt analizate aspecte legate de sistematica, fenologia, originea geografică și dinamica efectivelor. Au fost observate un număr de 127 de specii, dintre care 54 acvatice și 73 terestre.

Prezența ecosistemului acvatic atrage în perioadele de migrație (primăvara și toamna) numeroase specii acvatice. Dintre acestea un număr de 18 de specii sunt incluse în Directiva Păsări, Anexa I. Distribuția spațială și prezența speciilor într-un anumit habitat este strâns legată de cerințele ecologice ale acestora.

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Annexes:

Table no. 1 Sistematical and ecological classification of species registered in Lacu Sarat Braila area

ID	Scientific name	International English name	Family	Order	TipF	TipE	TipZ	TipR	SC UE	TSp	DP
1.	<i>Podiceps cristatus</i>	Great Crested Grebe	Podicipedidae	Podicipediformes	OV	Acv	TP	N	F	S	
2.	<i>Podiceps nigricollis</i>	Black-necked Grebe			OV	Acv	E	PC	F	D	
3.	<i>Tachybaptus ruficollis</i>	Little Grebe			OV	Acv	E	N	U	S	
4.	<i>Nycticorax nycticorax</i>	Night-heron	Ardeidae	Ciconiiformes	OVP	Acv	M	N	F	S	I
5.	<i>Egretta garzetta</i>	Little Egret			OVP	Acv	M	N	F	S	I
6.	<i>Egretta alba</i>	Great White Egret			OVP	Acv	CH	N	F	S	I
7.	<i>Ardea cinerea</i>	Grey Heron			OVP	Acv	TP	N	F	S	
8.	<i>Ciconia ciconia</i>	White Stork	Ciconiidae		OV	Acv	E	C	U	DP	I
9.	<i>Cygnus olor</i>	Mute Swan	Anatidae	Anseriformes	MP	Acv	E	N	F	S	
10.	<i>Cygnus cygnus</i>	Whooper Swan			OIP	Acv	S	N	F	S	I
11.		Greater White-fronted Anser albifrons				Acv		N			
		Goose			OIP		A		F	S	
12.	<i>Anser anser</i>	Greylag Goose			MP	Acv	MO	N	F	S	
13.	<i>Branta ruficollis</i>	Red-breasted Goose			OIP	Acv	A	N	U	L	I
14.	<i>Tadorna tadorna</i>	Common Shelduck			OV	Acv	MO	N	F	S	
15.	<i>Anas penelope</i>	Eurasian Wigeon			OIP	Acv	S	N	F	S	
16.	<i>Anas strepera</i>	Gadwall			OVP	Acv	TP	N	F	S	
17.	<i>Anas crecca</i>	Eurasian Teal			POIOV	Acv	TP	N	F	S	
18.	<i>Anas platyrhynchos</i>	Mallard			MP	Acv	TP	N	F	S	
19.	<i>Anas acuta</i>	Northern Pintail			OIP	Acv	S	N	U	D	
20.	<i>Anas querquedula</i>	Garganey			OVP	Acv	TP	N	U	VU	
21.	<i>Anas clypeata</i>	Northern Shoveler			OVP	Acv	TP	N	U	D	
22.	<i>Netta rufina</i>	Red-crested Pochard			OVP	Acv	M	N	F	S	
23.	<i>Aythya ferina</i>	Common Pochard			MP	Acv	E	N	U	D	
24.	<i>Aythya nyroca</i>	Ferruginous Duck			OVP	Acv	E	N	U	VU	I
25.	<i>Aythya fuligula</i>	Tufted Duck			OIP	Acv	S	N	U	D	
26.	<i>Aythya marila</i>	Greater Scaup			OIP	Acv	A	N	U	EN	
27.	<i>Bucephala clangula</i>	Common Goldeneye			OIP	Acv	S	N	F	S	
28.	<i>Mergus albellus</i>	Smew			OIP	Acv	S	N	U	R	I

29.	<i>Mergus merganser</i>	Common Merganser			OIP	Acv	TP	N	F	S	
30.	<i>Milvus migrans</i>	Black Kite	Accipitridae	Falconiformes	OVP	Ter	E	N	F	S	I
31.	<i>Milvus milvus</i>	Red Kite			P	Ter	E	N	U	D	I
32.	<i>Circus aeruginosus</i>	Western Marsh Harrier			OV	Acv	MO	PC	F	S	I
33.	<i>Circus cyaneus</i>	Northern Harrier			OIP	Ter	E	N	U	D	I
34.	<i>Accipiter gentilis</i>	Northern Goshawk			MP	Ter	TP	N	F	S	
35.	<i>Accipiter nisus</i>	Eurasian Sparrowhawk			MP	Ter	TP	N	F	S	
36.	<i>Buteo buteo</i>	Common Buzzard			MP	Ter	TP	C	F	S	
37.	<i>Falco tinnunculus</i>	Common Kestrel	Falconidae		MP	Ter	TP	C	U	D	
38.	<i>Falco vespertinus</i>	Red-footed Falcon			OV	Ter	MO	C	U	EN	I
39.	<i>Falco subbuteo</i>	Eurasian Hobby			OV	Ter	TP	C	F	S	
40.	<i>Perdix perdix</i>	Grey Partridge	Phasianidae	Galliformes	S	Ter	E	C	U	VU	
41.	<i>Coturnix coturnix</i>	Common Quail			OV	Ter	E	C	F	S	
42.	<i>Phasianus colchicus</i>	Common Pheasant			S	Ter	CH	C	F	S	
43.	<i>Fulica atra</i>	Common Coot	Rallidae	Gruiformes	MP	Acv	TP	C	F	S	
44.	<i>Himantopus himantopus</i>	Black-winged Stilt	Recurvirostridae	Charadriiformes	OVP	Acv	MO	N	F	S	I
45.	<i>Recurvirostra avosetta</i>	Pied Avocet			OVP	Acv	MO	C	F	S	I
46.	<i>Charadrius dubius</i>	Little Ringed Plover	Charadriidae		OVP	Acv	MO	N	F	S	
47.	<i>Charadrius alexandrinus</i>	Kentish Plover			OVP	Acv	MO	N	U	D	I
48.	<i>Pluvialis squatarola</i>	Grey Plover			P	Acv	A	N	U	DP	I
49.	<i>Pluvialis apricaria</i>	European Golden Plover			P	Acv	A	N	F	S	
50.	<i>Vanellus vanellus</i>	Northern Lapwing			OV	Acv*	MO	C	U	VU	
51.	<i>Calidris minuta</i>	Little Stint	Scolopacidae		P	Acv	A	N	F	S	
52.	<i>Philomachus pugnax</i>	Ruff			P	Acv	S	N	U	VU	I
53.	<i>Lymnocyptes minimus</i>	Jack Snipe			P	Acv	S	N	U	DP	
54.	<i>Gallinago gallinago</i>	Common Snipe			P	Acv	E	N	U	D	
55.	<i>Limosa limosa</i>	Black-tailed Godwit			OVP	Acv	MO	N	U	VU	
56.	<i>Numenius arquata</i>	Eurasian Curlew			OVP	Acv	E	N	U		I
57.	<i>Numenius tenuirostris</i>	Slender-billed Curlew			AC	Acv	S	N	U	D	
58.	<i>Tringa erythropus</i>	Spotted Redshank			P	Acv	S	N	U	D	
59.	<i>Tringa totanus</i>	Common Redshank			OVP	Acv	MO	N	U	D	
60.	<i>Tringa glareola</i>	Wood Sandpiper			P	Acv	S	N	F	S	
61.	<i>Tringa nebularia</i>	Common Greenshank			P	Acv	S	N	U	DP	I

62.	<i>Larus minutus</i>	Little Gull	Laridae		P	Acv	S	N	F	S	I
63.	<i>Larus ridibundus</i>	Common Black-headed Gull			MP	Acv		N			
64.	<i>Larus cachinnans</i>	Caspian Gull			S	Acv	TP	N	F	S	
65.	<i>Chlidonias hybridus</i>	Whiskered Tern	Sternidae		OV	Acv	M	N	U	DP	I
66.	<i>Columba oenas</i>	Stock Dove	Columbidae	Columbiformes	OV	Ter	E	C	F	S	
67.	<i>Columba palumbus</i>	Common Wood Pigeon			OV	Ter	E	C	F	S	
68.	<i>Streptopelia decaocto</i>	Eurasian Collared Dove			S	Ter	M	C	F	S	
69.	<i>Cuculus canorus</i>	Common Cuckoo	Cuculidae	Cuculiformes	OV	Ter	TP	C	U	D	
70.	<i>Athene noctua</i>	Little Owl	Strigidae	Strigiformes	S	Ter	MO	C	U	D	
71.	<i>Asio otus</i>	Long-eared Owl			S	Ter	TP	C	F	S	
72.	<i>Merops apiaster</i>	European Bee-eater	Meropidae	Coraciiformes	OVP	Ter	M	N	U	DP	
73.	<i>Upupa epops</i>	Eurasian Hoopoe	Upupidae		OV	Ter	E	C	U	D	
74.	<i>Picus canus</i>	Grey-headed Woodpecker	Picidae	Piciformes							
75.	<i>Picus viridis</i>	European Green Woodpecker			S	Ter	E		U	DP	I
76.	<i>Dendrocopos major</i>	Great Spotted Woodpecker			S	Ter	TP		F	S	
77.	<i>Dendrocopos syriacus</i>	Syrian Woodpecker			S	Ter	M	C	F	S	I
78.	<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker			S	Ter	TP		F	S	
79.	<i>Melanocorypha calandra</i>	Calandra Lark	Alaudidae	Passeriformes	MP	Ter	M	C	U	DP	I
80.	<i>Galerida cristata</i>	Crested Lark			S	Ter*	MO	C	U	DP	
81.	<i>Alauda arvensis</i>	Sky Lark			MP	Ter	MO	C	U	D	
82.	<i>Hirundo rustica</i>	Barn Swallow	Hirundinidae		OV	Ter	TP	C	U	D	
83.	<i>Delichon urbica</i>	Common House Martin			OV	Ter	TP	C	U	D	
84.	<i>Motacilla flava</i>	Yellow Wagtail	Motacillidae		OV	Ter	TP	C	U	D	
85.	<i>Motacilla alba</i>	White Wagtail			OV	Ter	E	C	F	S	
86.	<i>Bombycilla garrulus</i>	Bohemian Waxwing	Bombycillidae		OIP	Ter	S	N	F	S	
87.	<i>Troglodytes troglodytes</i>	Winter Wren	Troglodytidae		OV	Ter	E	C	F	S	
88.	<i>Erithacus rubecula</i>	European Robin	Turdidae		OV	Ter	E	C	F	S	
89.	<i>Luscinia megarhynchos</i>	Common Nightingale			OV	Ter	E	C	F	S	

90.	<i>Phoenicurus phoenicurus</i>	Common Redstart		OV	Ter	E	C	U	DP	
91.	<i>Turdus merula</i>	Common Blackbird		MP	Ter	E	C	F	S	
92.	<i>Turdus pilaris</i>	Fieldfare		MP	Ter	S	N	F	S	
93.	<i>Acrocephalus arundinaceus</i>	Great Reed Warbler	Sylviidae	OV		E		U	D	
94.	<i>Hippolais pallida</i>	Eastern Olivaceous Warbler					C			
	<i>Sylvia curruca</i>	Lesser Whitethroat		OV	Ter	M		U	D	
95.	<i>Sylvia communis</i>	Common Whitethroat		OV	Ter	E	C	F	S	
96.	<i>Sylvia borin</i>	Garden Warbler		OV	Ter	E	C	F	S	
97.	<i>Sylvia atricapilla</i>	Eurasian Blackcap		OV	Ter	E	C	F	S	
98.	<i>Phylloscopus sibilatrix</i>	Wood Warbler		OVP	Ter	E	N	U	D	
99.	<i>Phylloscopus collybita</i>	Chiffchaff		OV	Ter	TP	C	F	S	
100.	<i>Phylloscopus trochilus</i>	Willow Warbler		OVP	Ter	E	N	U	D	
101.	<i>Regulus regulus</i>	Goldcrest		MP	Ter	E	N	F	S	
102.	<i>Muscicapa striata</i>	Spotted Flycatcher	Muscicapidae	OV	Ter	E	C	U	D	
103.	<i>Ficedula hypoleuca</i>	Eurasian Pied Flycatcher		OVP	Ter	E	N	F	S	
104.	<i>Parus caeruleus</i>	Blue Tit	Paridae	S	Ter	E	C	F	S	
105.	<i>Parus major</i>	Great Tit		S	Ter	E	C	F	S	
106.	<i>Sitta europaea</i>	Eurasian Nuthatch	Sittidae	S	Ter	TP	C	F	S	
107.	<i>Oriolus oriolus</i>	Eurasian Golden Oriole	Oriolidae	OV	Ter	E	C	U	D	
108.	<i>Lanius collurio</i>	Red-backed Shrike	Laniidae	OV	Ter	E	C	U	DP	I
109.	<i>Lanius minor</i>	Lesser Grey Shrike		OV	Ter	E	C	U	VU	I
110.	<i>Garrulus glandarius</i>	Eurasian Jay	Corvidae	S	Ter	E	C	F	S	
111.	<i>Pica pica</i>	Eurasian Magpie		S	Ter	E	C	F	S	
112.	<i>Corvus monedula</i>	Western Jackdaw		S	Ter	E	C	F	S	
113.	<i>Corvus frugilegus</i>	Rook		S	Ter	E	C	F	S	
114.	<i>Corvus corone cornix</i>	Carrion Crow		S	Ter	E	C	F	S	
115.	<i>Sturnus vulgaris</i>	Common Starling	Sturnidae	MP	Ter	E	C	U	D	
116.	<i>Passer domesticus</i>	House Sparrow	Passeridae	S	Ter	TP	C	U	D	
117.	<i>Passer montanus</i>	Eurasian Tree Sparrow		S	Ter	TP	C	U	D	
118.	<i>Fringilla coelebs</i>	Chaffinch	Fringillidae	MP	Ter	E	C	F	S	
119.	<i>Carduelis chloris</i>	European Greenfinch		S	Ter	E	C	F	S	

121. <i>Carduelis carduelis</i>	European Goldfinch		S	Ter	E	C	F	S	
122. <i>Carduelis cannabina</i>	Common Linnet		MP	Ter	E	C	U	D	
123. <i>Pyrrhula pyrrhula</i>	Eurasian Bullfinch		OIP	Ter	S	N	F	S	
124. <i>Coccothraustes coccothraustes</i>	Hawfinch					C			
			S	Ter	E		F	S	
125. <i>Emberiza citrinella</i>	Yellowhammer	Emberizidae	S	Ter	E	C	U	D	
126. <i>Emberiza hortulana</i>	Ortolan Bunting		OV	Ter	E	C	U	D	I
127. <i>Miliaria calandra</i>	Corn Bunting		MP	Ter	E	C	U	D	

Legend: TipF – phenological type (S-sedentary; MP- partially migratory; OV- summer guests; OVP- summer guests in passage; P- passage; OIP- winter guests and/or in passage; POIOV- passage and/or winter guests and/or summer guests; AC- accidentally); TipE – ecological type (Acv-aquatic; Ter-terrestrial); TipZ – zoogeographical type (A-arctic; S-siberian; TP-transpalearctic; MO-mongol; M-mediterranean; E-european; CH-chinese); TipR – reproductive type (C-breeding; N-nonbreeding; PC-potential breeding); SC/UE – 2004 EU25 conservation status (F-favourabl; N-unfavorabl); TSp – threat status (S-secure; D-declining; DP-depleted; R-rare; VU-vulnerabl; EN-endangered); DP – Birds Directive Annex I.

Figure no. 7 The dynamics of birds reported in the area of Lacu Sarat Braila

