

THE MID-WINTER COUNT OF THE WATERFOWLS IN 2012 ON THE BASINS FROM THE ARGEȘ RIVER (IBA – “LACURILE DE ACUMULARE DE PE ARGEȘ”)

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Abstract

*In this paper, the authors show the situation concerning the occurrence of the birds species observed during the International Waterbirds Census in 2012 on the Vâlcele, Budeasa, Bascov, Pitești and Golești basins from the Important Bird Area “Lacurile de Acumulare de pe Argeș”. The identified species belong to 10 orders (Podicipediformes, Pelecaniformes, Ciconiiformes, Anseriformes, Falconiformes, Gruiformes, Charadriiformes, Columbiformes, Piciformes and Passeriformes). Anseriformes was the best represented order regarding the numbers (14517 individuals) and Passeriformes was the best represented order regarding the number of species (19 species). *Anas platyrhynchos* recorded 8404 individuals (35.47% of the registered total – 23696 individuals). From the ecological point of view, *Anas platyrhynchos*, *Aythya ferina* and *Larus ridibundus* (6.52%) were eudominant species, *Anas crecca*, *Fulica atra* and *Larus canus* (6.52%) were dominant species, *Anser albifrons* and *Larus cachinnans* (4.34%) were subdominant species and *Phalacrocorax carbo* and *Aythya fuligula* (4.34%) were recedent species. The subrecedent species were the most numerous (36 species: *Podiceps nigricollis*, *Phalacrocorax pygmaeus*, *Tadorna tadorna*, *Mergus albellus*, *Picus viridis*, *Troglodytes troglodytes*, etc., 78.26%). About the conservation based on the Birds Directive, 5 species (10.86% - *Phalacrocorax carbo*, *Phalacrocorax pygmaeus*, *Egretta alba*, *Circus cyaneus* and *Dendrocygpus syriacus*) belong to Annex I.*

Keywords: census, birds, conservation, Argeș River.

1. INTRODUCTION

The International Waterbird Census is organised on an international level by the Wetlands International starting with 1967. At the national level, the count was organised by the Romanian Ornithological Society beginning with 1990. It takes place every year between 10 and 20 January. Its main aim is to register the numbers of the waterbirds species and also to monitor the changes happened in their environment of life.

In the Argeș County, first observations of this type were performed in 1994 (Gava, 1997) on the basins from the middle and upper course of the Argeș River. Subsequently (with the name “Lacurile de Acumulare de pe Argeș”) through the Government Resolution no 1284/2007 these basins were declared Important Birds Area (IBA) as part of the Nature 2000 Network.

The area was intensively studied starting with 2000 (Mestecăneanu et al., 2005, Gava et al., 2004a, Gava et al., 2004b, Conete et al., 2009, Conete, 2011), but, occasionally, researches were effectuated here during the previous decades, too (Munteanu and Mătieș, 1983).

2. MATERIAL AND METHODS

The Argeș River is an important tributary of the Danube River from the Romanian territory. Its springs are in the Făgăraș Mountains. It drains the main part of the southern versant of the Făgăraș Mountain, the correspondent Subcarpathian area, the eastern part of the Getic Piedmont and a large area of the Romanian Plain. The building of its basins, which begins after 1960, determined a strong change of the landscape and of the qualitative and quantitative structure of the avifauna. Principally, in winter or in passage, many species of water birds are attracted here with an impressive number of individuals because of the good conditions of food and shelter, on a hand, and of the place of this area in the continuation of the Rucăr-Bran Corridor of migration, on the other hand (Mătieș, 1969).

The vegetation is typical for the wetlands from the southern parts of Romania. The process of silting permitted the establishment of the reedbeds (*Phragmites*, *Typha*) and of the other typical wetland plants (*Carex*, *Juncus*, *Salix*, *Alnus*, *Populus* etc.).

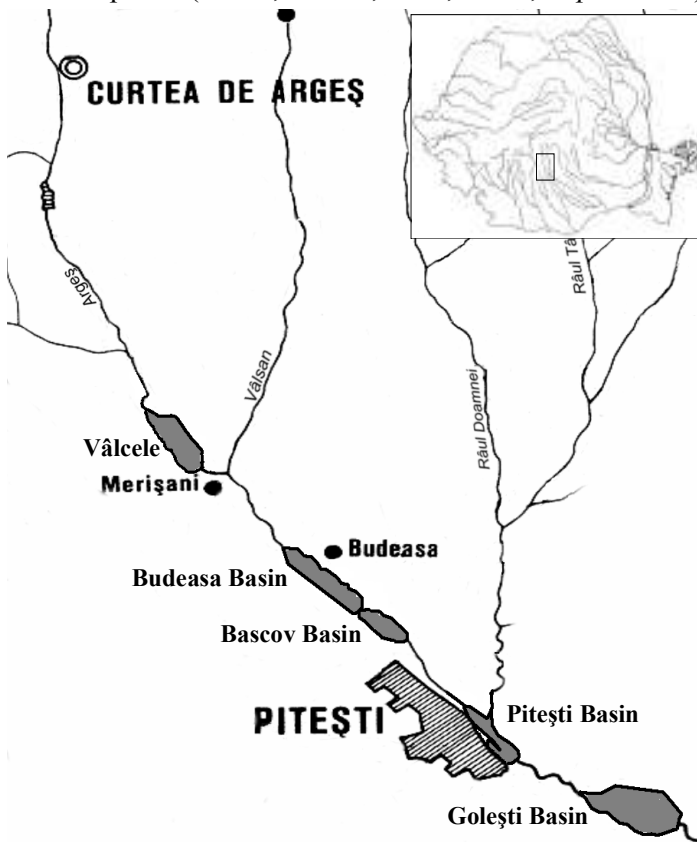


Figure 1. The map of the area.

The census was done on 14 January between 8:00 and 15:00. At the beginning, temperature of the air was -1°C and at the ending it was 7°C. Previously, the winter was characterised by a moderate climate. After the census, it was characterised by a severe climate (because of the low temperatures, the surfaces of the basins froze almost entirely and the birds disappeared almost completely). Our principal aim was to count the waterbirds species, but we counted the other encountered birds species, too. The itinerary method was used. We used a binocular and a terrestrial scope. The birds were identified with the Hamlin Guide (Bertel et al., 1999).

The climate of the area is temperate-continental with hilly influence. The average of the annual temperature of the air is 9 °C. The annual temperature of the water fluctuates between 6.4 °C, in the Argeș Gorges and 9 °C, at Pitești. In winters with accentuate continental aspect the bridge of ice is formed (Barco & Nedelcu, 1974).

The researches were performed on the Vâlcele (408 ha), Budeasa (412 ha), Bascov (162 ha), Pitești (122 ha), and Golești (649 ha) basins (figure 1).

3. RESULTS AND DISCUSSIONS

During the mid-winter count of the waterbirds from the Vâlcele, Budeasa, Bascov, Pitești and Golești basins from the Argeș River, 46 species of birds (with 23696 individuals) were registered. This mean 58.90% of the 73 birds' species observed here during 2000 – 2010 at the similar censuses. *Picus viridis*, *Dendrocopos syriacus* and *Regulus regulus* were not observed until now in the area at the previous actions of this type (Mestecăneanu et al., 2010).

The birds belong to 10 orders (Podicipediformes, Pelecaniformes, Ciconiiformes, Anseriformes, Falconiformes, Gruiformes, Charadriiformes, Columbiformes, Piciformes and Passeriformes). Anseriformes was the best represented order regarding the numbers (14517 individuals) and Passeriformes was the best represented order regarding the number of species (19 species).

The most individuals were recorded on the Golești Basin (12054 individuals) and the less individuals on the Bascov Basin (764 individuals). The biggest number of species was registered on the Golești (23 species), too, and the smallest number of species was registered on the Vâlcele Basin (10 species).

Regarding the numbers, the best represented on the Vâlcele basin were *Anas platyrhynchos* (with 780 individuals) and *Fulica atra* (with 700 individuals), on the Budeasa basin *Anas platyrhynchos* (with 1960 individuals) and *Fulica atra* (with 750 individuals), on the Bascov basin *Anas platyrhynchos* (with 250 individuals), *Larus ridibundus* (with 120 individuals) and *Larus cachinnans* (with 110

individuals), on the Pitești basin *Larus ridibundus* (with 2100 individuals) and *Larus canus* (with 1100 individuals) and on the Golești basin *Anas platyrhynchos* (with 5230 individuals) and *Aythya ferina* (with 2600 individuals). At the general level, *Anas platyrhynchos* recorded 8404 individuals (35.47% of the registered total). It was followed by: *Larus ridibundus* (3375 individuals, 14.24%), *Aythya ferina* (2840 individuals, 11.99%), *Fulica atra* (2052 individuals, 8.66%) etc. (table 1).

The number of the registered birds is higher than the average registered at the anterior censuses (Mestecăneanu et al., 2010). The reasons may be: a harsher winter than typically recorded in the Nordic region that determined the movement of the birds toward South, the climate from the Argeș area milder than usually or the increasing of the supply of food and shelter that attracted more birds etc.

Table 1. The birds identified on the basins from the “Lacurile de Acumulare de pe Argeș”, their dominance and their protection by Birds Directive

No	Species	Vâlcele Basin	Budeasa Basin	Bascov Basin	Pitești Basin	Golești Basin	Total	Dominance	Category of dominance	Birds Directive
I Order Podicipediformes										
1	<i>Podiceps cristatus</i>	23	54			21	98	0.41	D1	
2	<i>Podiceps nigricollis</i>		6			3	9	0.04	D1	
3	<i>Tachybaptus ruficollis</i>	45	120	40	3	40	248	1.05	D1	
II Order Pelecaniformes										
4	<i>Phalacrocorax carbo</i>	22	350	10		24	406	1.71	D2	AI
5	<i>Phalacrocorax pygmaeus</i>		25				25	0.11	D1	AI
III Order Ciconiiformes										
6	<i>Egretta alba</i>	6				3	9	0.04	D1	AI
7	<i>Ardea cinerea</i>	1	3	2		3	9	0.04	D1	
IV Order Anseriformes										
8	<i>Cygnus olor</i>	8	8		84	9	109	0.46	D1	AII/2
9	<i>Anser albifrons</i>					600	600	2.53	D3	AII/2, AIII/2
10	<i>Tadorna tadorna</i>					6	6	0.03	D1	
11	<i>Anas platyrhynchos</i>	780	1960	250	184	5230	8404	35.47	D5	AII/1, AIII/1
12	<i>Anas penelope</i>		170			80	250	1.06	D1	AII/1, AIII/2
13	<i>Anas crecca</i>	232	250			1200	1682	7.10	D4	AII/1, AIII/2
14	<i>Aythya fuligula</i>	20	10		15	400	445	1.88	D2	AII/1, AIII/2
15	<i>Aythya ferina</i>	70	150		20	2600	2840	11.99	D5	AII/1, AIII/2
16	<i>Bucephala clangula</i>	154	20			2	176	0.74	D1	AII/2
17	<i>Mergus albellus</i>	5					5	0.02	D1	
V Order Falconiformes										
18	<i>Circus cyaneus</i>					1	1	0.01	D1	AI
19	<i>Buteo buteo</i>	2	1	1	1	1	6	0.03	D1	
20	<i>Falco tinunculus</i>		1			1	2	0.01	D1	
VI Order Gruiformes										
21	<i>Fulica atra</i>	700	750	16	20	566	2052	8.66	D4	AII/1, AIII/2
VII Order Charadriiformes										
22	<i>Larus ridibundus</i>	10	290	120	2100	855	3375	14.24	D5	AII/2

23	<i>Larus cachinnans</i>	4	130	110	520	150	914	3.86	D3	AII/2
24	<i>Larus canus</i>	5	310	90	1100	150	1655	6.98	D4	AII/2
VIII Order Columbiformes										
25	<i>Streptopelia decaocto</i>				8	1	9	0.04	D1	AII/2
26	<i>Picus viridis</i>			1			1	0.01	D1	
27	<i>Dendrocopos syriacus</i>		1				1	0.01	D1	AI
IX Order Passeriformes										
28	<i>Galerida cristata</i>					2	2	0.01	D1	
29	<i>Anthus spinoletta</i>			2		7	9	0.04	D1	
30	<i>Troglodytes troglodytes</i>				1		1	0.01	D1	
31	<i>Regulus regulus</i>			2			2	0.01	D1	
32	<i>Turdus merula</i>		2		1		3	0.01	D1	AII/2
33	<i>Parus caeruleus</i>	1		2	5		8	0.03	D1	
34	<i>Parus major</i>			3	2	1	6	0.03	D1	
35	<i>Garrulus glandarius</i>			2			2	0.01	D1	AII/2
36	<i>Pica pica</i>			7	12	21	40	0.17	D1	AII/2
37	<i>Corvus monedula</i>				30	5	35	0.15	D1	AII/2
38	<i>Corvus frugilegus</i>				40	26	66	0.28	D1	AII/2
39	<i>Corvus corone cornix</i>		11		1	12	24	0.10	D1	AII/2
40	<i>Corvus corax</i>			2		4	6	0.03	D1	
41	<i>Fringilla coelebs</i>					5	5	0.02	D1	
42	<i>Carduelis carduelis</i>	11		24		25	60	0.25	D1	
43	<i>Carduelis spinus</i>			80			80	0.34	D1	
44	<i>Carduelis chloris</i>				2		2	0.01	D1	
45	<i>Emberiza citrinella</i>		5				5	0.02	D1	
46	<i>Emberiza schoeniclus</i>		2		1		3	0.01	D1	
Total of individuals		2099	4629	764	4150	12054	23696			
Total of species		10	15	13	14	23	46			

Depending on the dominance, 3 species (6.52%, *Anas platyrhynchos*, *Aythya ferina* and *Larus ridibundus*) were eudominant (D5), 3 species (6.52%, *Anas crecca*, *Fulica atra* and *Larus canus*) were dominant (D4), 2 species (4.35%, *Anser albifrons* and *Larus cachinnans*) were subdominant (D3), 2 species (4.35%, *Phalacrocorax carbo* and *Aythya fuligula*) were recedent (D2) and 36 species (78.26%, *Podiceps cristatus*, *Ardea cinerea*, *Anas penelope*, *Streptopelia decaocto*, *Garrulus glandarius*, *Carduelis carduelis*, *Emberiza schoeniclus*, etc.) were subrecedent (D1), (table 1, figure 2).

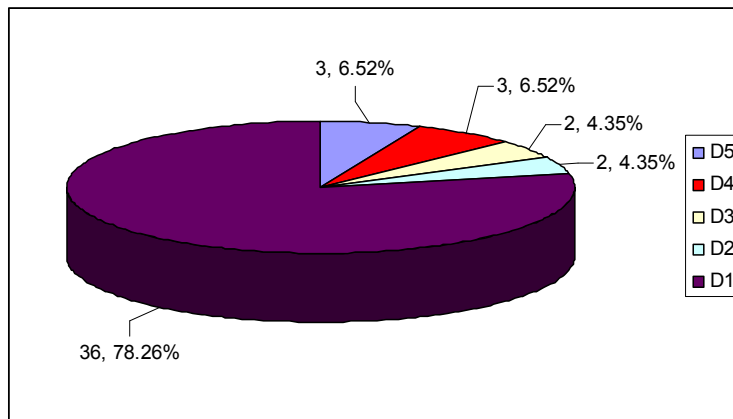


Figure 2. The repartition of the species depending on the categories of dominance

For the whole area, according to the index of relation, the Anseriformes and Charadriiformes orders were overdominant, and Gruiformes and the other orders (Podicipediformes, Pelecaniformes, Ciconiiformes, Falconiformes, Columbiformes and Passeriformes) were complementary (table 2, figure 3).

Table 2. The value of the index of relation for the orders of birds identified in the area

No	Order	Value
1	Anseriformes	61.26
2	Gruiformes	8.66
3	Charadriiformes	25.08
4	Other orders	4.99

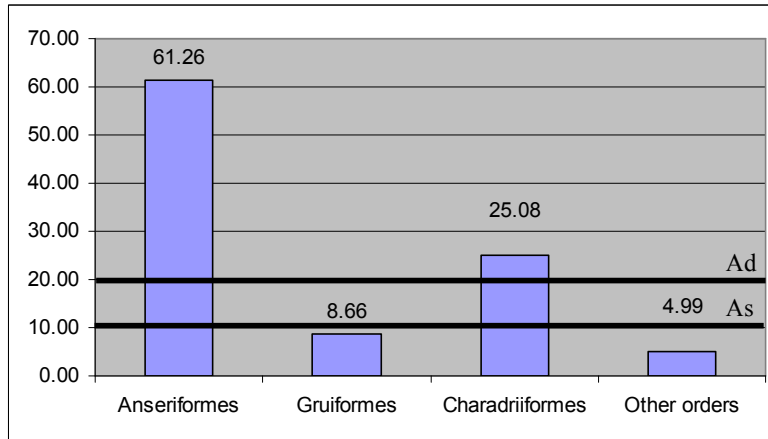


Figure 3. The index of relation for the orders of birds identified in the area

For the Anseriformes order, *Anas platyrhynchos* was the only overdominant species, *Anas crecca* and *Aythya ferina* were the dominant species and *Anser albifrons* and the other species (*Cygnus olor*, *Tadorna tadorna*, *Anas penelope*, *Aythya fuligula*, *Bucephala clangula* and *Mergus albelus*) were the complementary species (table 3, figure 4).

Table 3. The value of the index of relation for the birds species identified in the area from the Anseriformes order

No	Species	Value
1	<i>Anser albifrons</i>	4.13
2	<i>Anas platyrhynchos</i>	57.89
3	<i>Anas crecca</i>	11.58
4	<i>Aythya ferina</i>	19.56
5	Other species	6.82

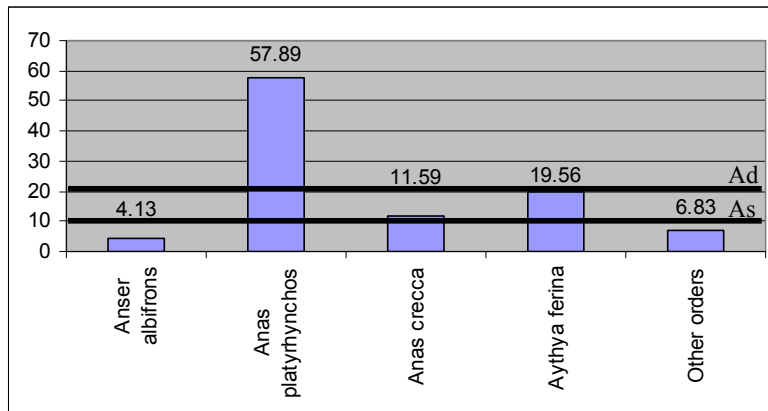


Figure 4. The index of relation for the species identified in the area from the Anseriformes order

Comparatively with the situation registered during 2000 – 2010 at the midwinter census, we observe a similar situation, with *Anas platyrhynchos* – overdominant species, *Anas crecca* and *Aythya ferina* – dominant species and other species – complementary species (Mestecăneanu et al., 2010). *Anas platyrhynchos*, *Anas crecca* and *Aythya ferina* together with *Larus ridibundus*, *Anser albifrons*, *Fulica atra*, *Larus canus* and *Larus cachinnans* found here good conditions of food and protection.

Regarding the protected species by the Birds Directive, only 5 species are in the Annex I (10.86% - *Phalacrocorax carbo*, *Phalacrocorax pygmaeus*, *Egretta alba*, *Circus cyaneus* and *Dendrocopos syriacus*). They are the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution (Munteanu, 2004). The number of protected species observed here is higher in the winter fact which justify the declaration of the basins that Important Birds Area (Conete, 2011).

4. CONCLUSIONS

As result of our research during the Mid-winter Count of the Waterfowls from the “Lacurile de Acumulare de pe Argeş” Important Birds Area performed on 14 January 2012, we stated that the population of the birds was higher than the average registered at the anterior censuses. A harsher winter than typically recorded in the Nordic region that determined the movement of the birds toward South, the climate from the Argeş area more moderate than usually or the increasing of the supply of food and shelter that attracted more birds may be taken in discussion.

Anseriformes was the best represented order regarding the numbers (14517 individuals) and Passeriformes was the best represented order regarding the number of species (19 species). Anseriformes and Charadriiformes were overdominant orders. *Anas platyrhynchos* was overdominant species and *Anas crecca* and *Aythya ferina* dominant species. They found here good conditions of food and protection.

The number of protected species observed here usually in the winter justify the statement of the basins of that Important Birds Area as part of Nature 2000 Network.

5. REFERENCES

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