

**THE COENOTIC AFFINITY OF THE WATER BIRDS SPECIES  
FROM SOME DAM BASINS OF THE ARGEȘ RIVER IN THE  
PREVERNAL SEASON**

ADRIAN MESTECĂNEANU

Argeș County Museum, 44 Armand Călinescu Street, 110047, Pitești, Argeș, Romania,  
e-mail: mestecaneanua@yahoo.com

RADU GAVA

University of Pitești, 1 Târgu din Vale Street, 110040, Pitești, Argeș, Romania,  
e-mail: gavaradu@yahoo.com

**ABSTRACT.** The main goal of this paper was to present the coenotic affinities established in the prevernal season between the birds' species of the dam basins between Vâlcele and Golești, from ROSPA0062 Lacurile de Acumulare de pe Argeș. The 29 considered water species numbered 4,171 individuals. Among them, *Aythya fuligula*, *Aythya ferina* and *Fulica atra* - the eudominant species, totalised 2,771 individuals (66.43% of all individuals). It was stated that *Vanellus vanellus* and *Ardea purpurea*, respectively *Sterna hirundo* and *Tringa ochropus* were the characteristic species at the level of whole area. Depending on the dam basins, the characteristic species were: *Chlidonias hybridus* and *Larus ridibundus*, on Vâlcele, *Larus argentatus* and *Fulica atra*, on Budeasa, *Larus argentatus* and *Tachybaptus ruficollis*, on Bascov, *Actitis hypoleucos*, *Gallinula chloropus*, *Anas clypeata* and *Pahalacrocorax carbo*, on Pitești, and *Recurvirostra avosetta* and *Ardea cinerea*, on a side, and *Sterna hirundo*, *Tringa ochropus*, *Charadrius dubius* and *Podiceps nigricollis*, on the other side, on Golești.

**Keywords:** birds, ROSPA0062, Argeș River, coenotic affinity.

**REZUMAT.** Afinitatea cenotică a speciilor de păsări dependente de apă de pe unele lacuri de acumulare de pe râul Argeș în sezonul prevernal. Principalul obiectiv al acestei lucrări a fost de a prezenta afinitățile cenotice stabilite în sezonul prevernal între speciile de păsări de pe lacurile de acumulare dintre Vâlcele și Golești, din ROSPA0062 Lacurile de Acumulare de pe Argeș. Cele 29 specii de apă considerate au numărul 4171 exemplare. Dintre acestea, *Aythya fuligula*, *Aythya ferina* și *Fulica atra* - speciile eudominante, au însumat 2771 exemplare (66,43% din total). S-a constatat că *Vanellus vanellus* și *Ardea purpurea*, respectiv *Sterna hirundo* și *Tringa ochropus* au fost speciile caracteristice la nivelul întregii arii. În funcție de lacurile de acumulare, speciile caracteristice au fost: *Chlidonias hybridus* și *Larus ridibundus*, pe Vâlcele, *Larus argentatus* și *Fulica atra*, pe Budeasa, *Larus argentatus* și *Tachybaptus ruficollis*, pe Bascov, *Actitis hypoleucos*, *Gallinula chloropus*, *Anas clypeata* și *Pahalacrocorax carbo*, pe Pitești, și *Recurvirostra avosetta* și *Ardea cinerea*, pe de o parte, și *Sterna hirundo*, *Tringa ochropus*, *Charadrius dubius* și *Podiceps nigricollis*, pe de altă parte, pe Golești.

**Cuvinte cheie:** păsări, ROSPA0062, râul Argeș, afinitate cenotică.

## INTRODUCTION

The avifauna of the dam basins from the Argeş River was relatively well studied until now. The first paper on the subject appeared at the end of '60 (Mătieş, 1969) but many observations from the subsequent years have not seen the light of the print, because of the tragically death of the Mircea Mătieş in 1982. At the transition between the millenniums, the research work was resumed and as a result a series of papers issued (Gava, 1997; Mestecăneanu et al., 2003; Gava et al., 2004; Conete et al., 2006; Mestecăneanu et al., 2010; Conete, 2011; Conete et al., 2012; Mestecăneanu & Gava, 2016, etc.). The avifauna from the prevernal aspect, the spring season of migration for the most of the species, was the centre of the attention in some of these papers (Mestecăneanu et al., 2004, 2006; Conete et al., 2008, 2009a, b, 2010; Mestecăneanu & Gava, 2013). In this item, our main purpose was to show the affinities established between the water species from these ecosystems.

## MATERIAL AND METHODS

The dam basins where the research-studies on the birds were performed are, from upstream to downstream (Fig. 1): Vâlcele (407 ha), Budeasa (389 ha), Bascov (114 ha), Piteşti (104 ha), and Goleşti (610 ha), where the surfaces were measured in Google Earth program. They belong to ROSPA0062 - Lacurile de acumulare de pe Argeş (The Dam Basins from the Argeş River) and are situated on the Argeş River, as suggests the name of the protected site. The river flows between the Cotmeana Platform, in the West, and the Cândeşti Platform, in the East, and the Argeş Platform and the Piteşti High Plain flank the area to the North, respectively to the South.

Generally, the basins vegetation occupies the surfaces from their end, but also other parts according to different level of silting. It is typical of wetlands, with species of reed (*Phragmites* ADANS.), bulrush (*Typha* L.), alder (*Alnus* MILL.), willow (*Salix* L.) etc. Regarding the fauna, it is diverse, with various species of vertebrates and invertebrates.

A net of roads links the settlements from nearby.

The climate is temperate with hilly influence and plain features, in the South. The annual average water temperature is 7-8 °C (Barco & Nedelcu, 1974).

As methods of field work, the itinerary method was used in combination to one of the fixed point of observations. All basins were visited in the same day in the middle of March and April, 2013. The observations were performed from the same tracks on the banks of the basins. Binoculars (10x50), a spotting scope (14-45x50) and a photo device (42x optical zoom) were used.

To identify the species characteristic to the ecosystems and to compare the similarities between the avicoenosis of the dam basins, we use the Bray-Curtis

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Index. This is based both on the presence/absence of the species in the sample and on the strengths of the species (Gomoiu & Skolka, 2001).

The scientific nom of the birds is compatible with the Hamlin Guide (Bruun at al., 1999).

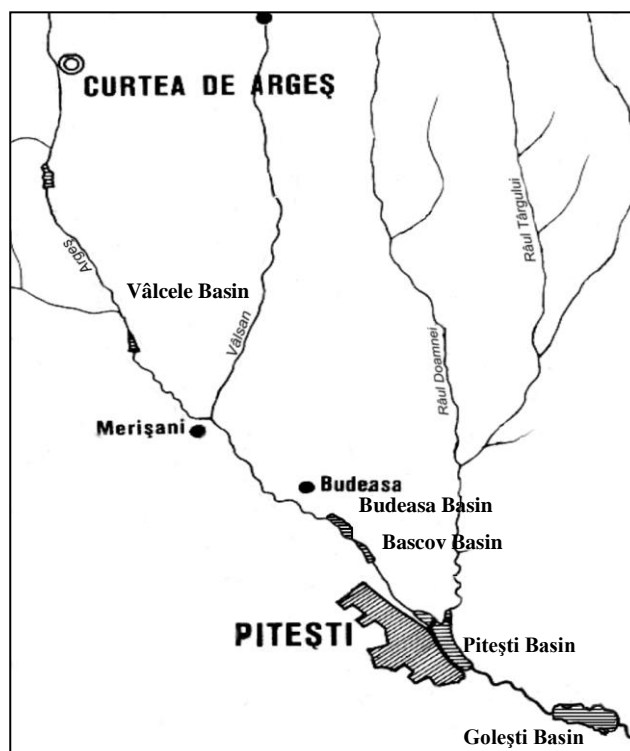


Figure 1 - The map of the Argeș River between Curtea de Argeș and Pitești.

## RESULTS AND DISCUSSIONS

The avifauna of the Vâlcele, Budeasa, Bascov, Pitești and Golești dam basins from the prevernal season, 2013, was formed by 71 species of birds, represented by 4,713 individuals (Mestecăneanu & Gava, 2013). Because not all species are typical to the wetlands, for the coenotic affinity analyse we considered only the species that depend on the water and that feed exclusively or largely from or on it. Also, others species characteristic to wetlands, observed in the area, like *Locustella luscinioides* (SAVI, 1824), *Acrocephalus palustris* (BECHSTEIN, 1798), *Acrocephalus scirpaceus* (HERMANN, 1804), that live in the reed bed or in the willow and alder habitats, were excluded from the calculation, because only a fraction of their strengths was counted. Therefore, the 29 remained species (40.84% of all) numbered 4,171 individuals (88.49% of all), (Tab. 1). 15 species (51.72% of all) - *Podiceps cristatus*, *Phalacrocorax carbo*,

*Egretta alba*, *Ardea cinerea*, *Cygnus olor*, *Anas platyrhynchos*, *Anas penelope*, *Anas querquedula*, *Anas crecca*, *Aythya fuligula*, *Aythya ferina*, *Fulica atra*, *Charadrius dubius*, *Larus argentatus* (sspp. *cachinnans* and *michahellis*), *Larus ridibundus* - were observed in both field trips and 14 species (48.27% of all) - *Podiceps nigricollis*, *Tachybaptus ruficollis*, *Phalacrocorax pygmeus*, *Egretta garzetta*, *Ardea purpurea*, *Anas clypeata*, *Bucephala clangula*, *Gallinula chloropus*, *Vanellus vanellus*, *Actitis hypoleucos*, *Tringa ochropus*, *Recurvirostra avosetta*, *Chlidonias hybridus*, *Sterna hirundo* - were observed only once. 19 species among them (65.51% - *Podiceps cristatus*, *Podiceps nigricollis*, *Tachybaptus ruficollis*, *Phalacrocorax carbo*, *Egretta garzetta*, *Ardea cinerea*, *Cygnus olor*, *Anas platyrhynchos*, *Anas crecca*, *Anas clypeata*, *Aythya fuligula*, *Aythya ferina*, *Gallinula chloropus*, *Fulica atra*, *Vanellus vanellus*, *Charadrius dubius*, *Larus ridibundus*, *Chlidonias hybridus*, *Sterna hirundo*) bred in the area in 2013 and *Larus argentatus michahellis* bred in the nearby city of Pitești. The rest of 9 species (31.03% of all: *Phalacrocorax pygmeus*, *Egretta alba*, *Ardea purpurea*, *Anas penelope*, *Anas querquedula*, *Bucephala clangula*, *Actitis hypoleucos*, *Tringa ochropus*, *Recurvirostra avosetta*) were non breeding species (Mestecăneanu & Gava, 2013).

As phenology in our country, *Podiceps cristatus*, *Tachybaptus ruficollis*, *Phalacrocorax carbo*, *Phalacrocorax pygmeus*, *Egretta garzetta*, *Egretta alba*, *Ardea cinerea*, *Ardea purpurea*, *Anas querquedula*, *Gallinula chloropus*, *Vanellus vanellus*, *Charadrius dubius*, *Actitis hypoleucos*, *Recurvirostra avosetta*, *Chlidonias hybridus*, *Sterna hirundo* are summer visitors, *Podiceps nigricollis*, *Cygnus olor*, *Anas platyrhynchos*, *Aythya ferina*, *Fulica atra*, *Larus ridibundus* are partial migrant species, *Anas penelope*, *Anas crecca*, *Anas clypeata*, *Tringa ochropus* are passage species, *Aythya fuligula*, *Bucephala clangula* are winter visitors and *Larus argentatus* is resident species (Bruun et al., 1999). At the local level, it is difficult to clearly differentiate the appurtenance of all species to these categories and this will be discussed in a future paper.

By dominance, 3 species (10.34%, *Aythya fuligula*, *Aythya ferina* and *Fulica atra*) were eudominant, 1 species (3.44%, *Anas platyrhynchos*) was dominant, 4 species (13.79%, *Podiceps cristatus*, *Anas crecca*, *Larus argentatus*, *Larus ridibundus*) were subdominant, 2 species (6.89%, *Phalacrocorax carbo*, *Cygnus olor*) were recedent and 19 species (66.51%) were subrecedent (Tab. 1).

From the analyse of the coenotic affinity dendrogram (Fig. 2), we see that there are two pairs of species (*Vanellus vanellus* - *Ardea purpurea* and *Sterna hirundo* - *Tringa ochropus*) that can be considered characteristic species (with 100% similarity), though they were observed only once and in very low number. *Anas crecca* and *Larus argentatus* (sspp. *cachinnans* and *michahellis*) realised also a big coenotic affinity (95.60%) as well as *Egretta garzetta* and *Podiceps nigricollis* (95.23%). This is possible because, the season is characterised through a

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big mobility of the species, both as occurrence and as strengths (20 species, with 3,190 individuals, in March, and 24 species, with 981 individuals, in April).

Table 1 - The species of birds directly dependent on water observed in the prevernal season.

No.	Species	March	April	Individuals	Dominancy
1	<i>Podiceps cristatus</i> (LINNAEUS, 1758)	+	+	109	D3
2	<i>Podiceps nigricollis</i> BREHM C.L., 1831		+	10	D1
3	<i>Tachybaptus ruficollis</i> (PALLAS, 1764)	+		6	D1
4	<i>Phalacrocorax carbo</i> (LINNAEUS, 1758)	+	+	64	D2
5	<i>Phalacrocorax pygmeus</i> (PALLAS, 1773)	+		35	D1
6	<i>Egretta garzetta</i> (LINNAEUS, 1766)		+	11	D1
7	<i>Egretta alba</i> (LINNAEUS, 1758)	+	+	22	D1
8	<i>Ardea cinerea</i> LINNAEUS, 1758	+	+	18	D1
9	<i>Ardea purpurea</i> LINNAEUS, 1766	+		1	D1
10	<i>Cygnus olor</i> (GMELLIN, 1789)	+	+	59	D2
11	<i>Anas platyrhynchos</i> LINNAEUS, 1758	+	+	381	D4
12	<i>Anas penelope</i> LINNAEUS, 1758	+	+	44	D1
13	<i>Anas querquedula</i> LINNAEUS, 1758	+	+	41	D1
14	<i>Anas crecca</i> LINNAEUS, 1758	+	+	207	D3
15	<i>Anas clypeata</i> LINNAEUS, 1758		+	13	D1
16	<i>Aythya fuligula</i> (LINNAEUS, 1758)	+	+	1,420	D5
17	<i>Aythya ferina</i> (LINNAEUS, 1758)	+	+	743	D5
18	<i>Bucephala clangula</i> (LINNAEUS, 1758)	+		21	D1
19	<i>Gallinula chloropus</i> (LINNAEUS, 1758)		+	1	D1
20	<i>Fulica atra</i> LINNAEUS, 1758	+	+	608	D5
21	<i>Vanellus vanellus</i> LINNAEUS, 1758	+		1	D1
22	<i>Charadrius dubius</i> SCOPOLI, 1786	+	+	5	D1
23	<i>Actitis hypoleucos</i> LINNAEUS, 1758		+	3	D1
24	<i>Tringa ochropus</i> LINNAEUS, 1758		+	2	D1
25	<i>Recurvirostra avosetta</i> LINNAEUS, 1758		+	7	D1
26	<i>Larus argentatus</i> PONTOPPIDAN, 1763 ( <i>L. a. cachinnans</i> (PALLAS, 1811) and <i>L. a. michahellis</i> (NAUMANN, 1840))	+	+	203	D3
27	<i>Larus ridibundus</i> LINNAEUS, 1766	+	+	130	D3
28	<i>Chlidonias hybridus</i> (PALLAS, 1811)		+	4	D1
29	<i>Sterna hirundo</i> LINNAEUS, 1758		+	2	D1

**Legend:**

+ - presence; D1 - subrecedent species, D2 - recedent species, D3 - subdominant species, D4 - dominant species, D5 - eudominant species.

Bray-Curtis Cluster Analysis (Single Link)

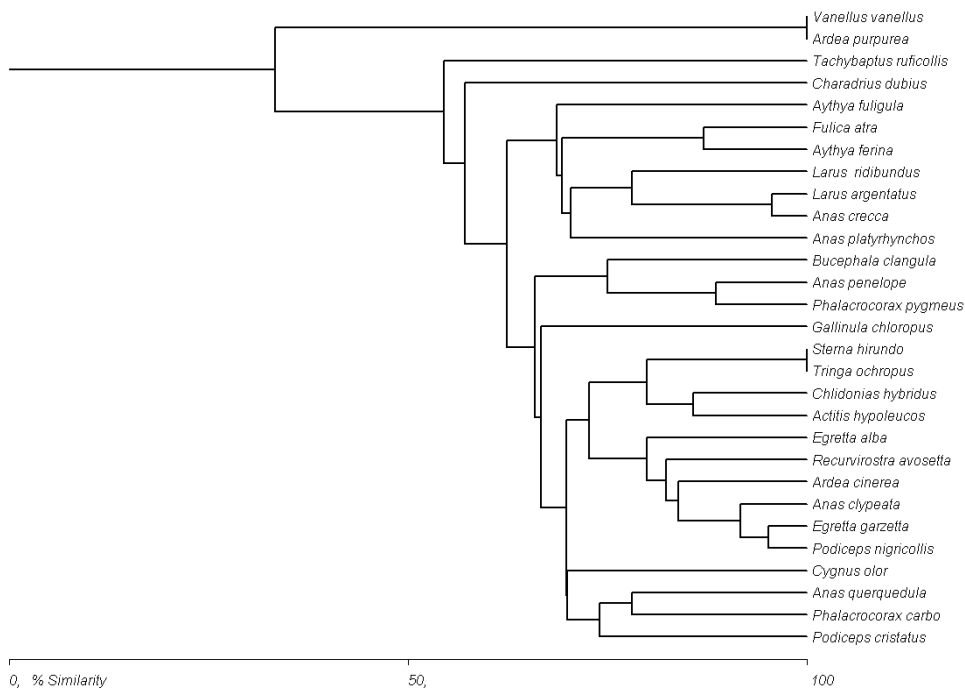


Figure 2 - The dendrogram of the coenotic affinity between the species dependent on water from the area.

The eudominant and dominant species established medium or relatively good similarities among them - between 42.31% for the pair *Aythya fuligula* - *Anas platyrhynchos* and 87.05% for the pair *Fulica atra* - *Aythya ferina*, but there are also good coenotic affinities between *Anas platyrhynchos* and *Anas crecca* - 70.41% and between *Anas platyrhynchos* and *Larus argentatus* - 69.52 (Tab. 2). Other significant similarities are between: *Podiceps cristatus* - *Phalacrocorax carbo* (73.98%), *Ardea cinerea* - *Egretta garzetta* (75.86%), *Anas penelope* - *Phalacrocorax pygmeus* (88.60%), *Anas querquedula* - *Phalacrocorax carbo* (78.09%), *Anas clypeata* - *Egretta garzetta* (91.66%), *Recurvirostra avosetta* - *Podiceps nigricollis* (82.35%), *Recurvirostra avosetta* - *Egretta garzetta* (77.77%), *Larus ridibundus* - *Anas crecca* (77.15%), *Larus ridibundus* - *Larus argentatus* (78.07%), *Chlidonias hybridus* - *Actitis hypoleucos* (85.71%) and *Chlidonias hybridus* - *Recurvirostra avosetta* (72.72%).

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Table 2 - The matrix of similarity by Bray-Curtis index of the eudominant and dominant species.

Species	<i>Anas platyrhynchos</i>	<i>Aythya fuligula</i>	<i>Aythya ferina</i>	<i>Fulica atra</i>
<i>Podiceps cristatus</i>	44.49	14.26	21.83	30.40
<i>Podiceps nigricollis</i>	5.12	1.40	2.66	3.24
<i>Tachybaptus ruficollis</i>	3.10	0.84	1.60	1.95
<i>Phalacrocorax carbo</i>	28.76	8.63	15.86	19.05
<i>Phalacrocorax pygmeus</i>	16.83	4.81	9.00	10.89
<i>Egretta garzetta</i>	5.61	1.54	2.92	3.55
<i>Egretta alba</i>	10.92	3.05	5.75	6.98
<i>Ardea cinerea</i>	9.02	2.50	4.73	5.75
<i>Ardea purpurea</i>	0.52	0.14	0.27	0.33
<i>Cygnus olor</i>	26.82	7.98	14.71	17.69
<i>Anas platyrhynchos</i>	*	42.31	57.47	69.36
<i>Anas penelope</i>	20.71	6.01	11.18	13.50
<i>Anas querquedula</i>	19.43	5.61	10.46	12.63
<i>Anas crecca</i>	70.41	25.45	43.58	50.80
<i>Anas clypeata</i>	6.60	1.81	3.44	4.19
<i>Aythya fuligula</i>	42.31	*	68.70	59.96
<i>Aythya ferina</i>	57.47	68.70	*	87.05
<i>Bucephala clangula</i>	10.45	2.91	5.50	6.68
<i>Gallinula chloropus</i>	0.52	0.14	0.27	0.33
<i>Fulica atra</i>	69.36	59.96	87.05	*
<i>Vanellus vanellus</i>	0.52	0.14	0.27	0.33
<i>Charadrius dubius</i>	2.59	0.70	1.34	1.63
<i>Actitis hypoleucos</i>	1.56	0.42	0.80	0.98
<i>Tringa ochropus</i>	1.04	0.28	0.54	0.66
<i>Recurvirostra avosetta</i>	3.61	0.98	1.87	2.28
<i>Larus argentatus</i>	69.52	25.02	42.92	50.06
<i>Larus ridibundus</i>	50.88	16.77	29.78	35.23
<i>Chlidonias hybridus</i>	2.08	0.56	1.07	1.31
<i>Sterna hirundo</i>	1.04	0.28	0.54	0.66

By dam basins, the characteristic species on Vâlcele were *Chlidonias hybridus* and *Larus ridibundus* (with 85.71% similarity, Fig. 3). They were observed in April and have had 4, respectively 3 individuals. Other pairs with high similarities were: *Aythya fuligula* - *Anas platyrhynchos* (83.09%), *Bucephala clangula* - *Anas crecca* (82.35%), *Phalacrocorax carbo* - *Podiceps cristatus* (80.70%), *Anas clypeata* - *Podiceps nigricollis* (80.00%) and *Charadrius dubius* - *Tachybaptus ruficollis* (80.00%). It is interesting that *Fulica atra*, the species with

the largest strength (134 individuals), realised the biggest coenotic affinity, of only 33.17%, with *Aythya fuligula*.

Bray-Curtis Cluster Analysis (Single Link)

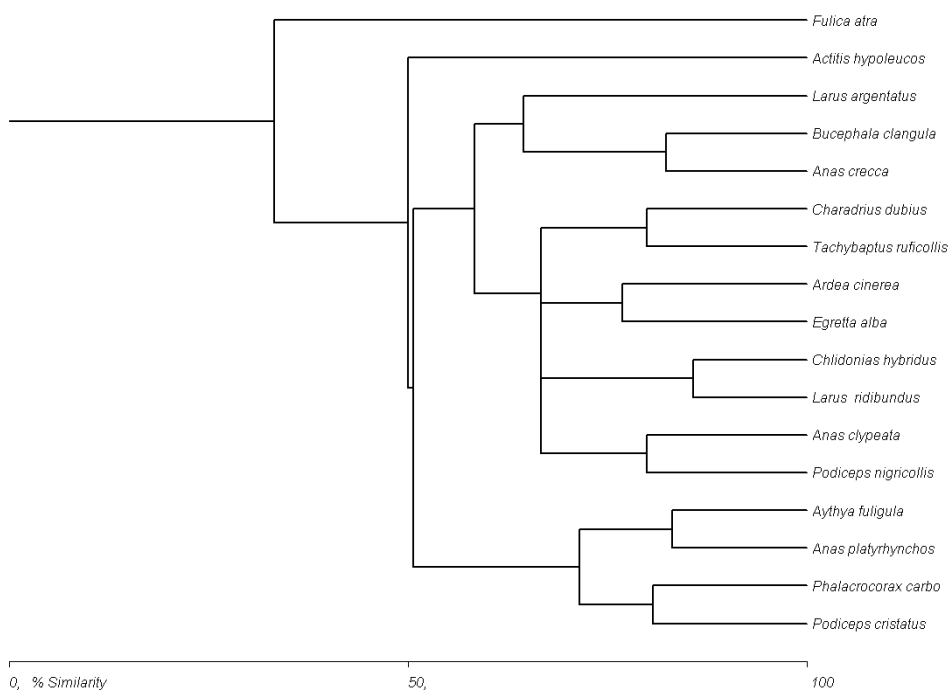


Figure 3 - The dendrogram of the coenotic affinity between the species dependent on water from the Vâlcele Dam Basin.

On Budeasa, the characteristic species were *Larus argentatus* and *Fulica atra* (100.00% - similarity, Fig. 4). Their strengths were relatively low (12 individuals) and decreased from March to April. *Aythya ferina* had high similarity (96.00%) with *Fulica atra*, respectively *Larus argentatus*, because the same reason, and the pair *Ardea cinerea* - *Phalacrocorax carbo* also remarked through a similarity of 88.88%.

On Bascov Dam Basin, the characteristic species were *Larus argentatus* and *Tachybaptus ruficollis* (with 100.00% similarity, Fig. 5). They were seen only in March and have had 4 individuals. The coenotic affinities between the other species were much lower (max. 66.66%, between *Tachybaptus ruficollis* and *Larus ridibundus*, respectively *Larus argentatus* and *Larus ridibundus*). Again, *Fulica atra* - the species with the highest strength (173 individuals), realised the biggest coenotic affinity, of only 63.24%, this time with *Aythya ferina*.



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Bray-Curtis Cluster Analysis (Single Link)

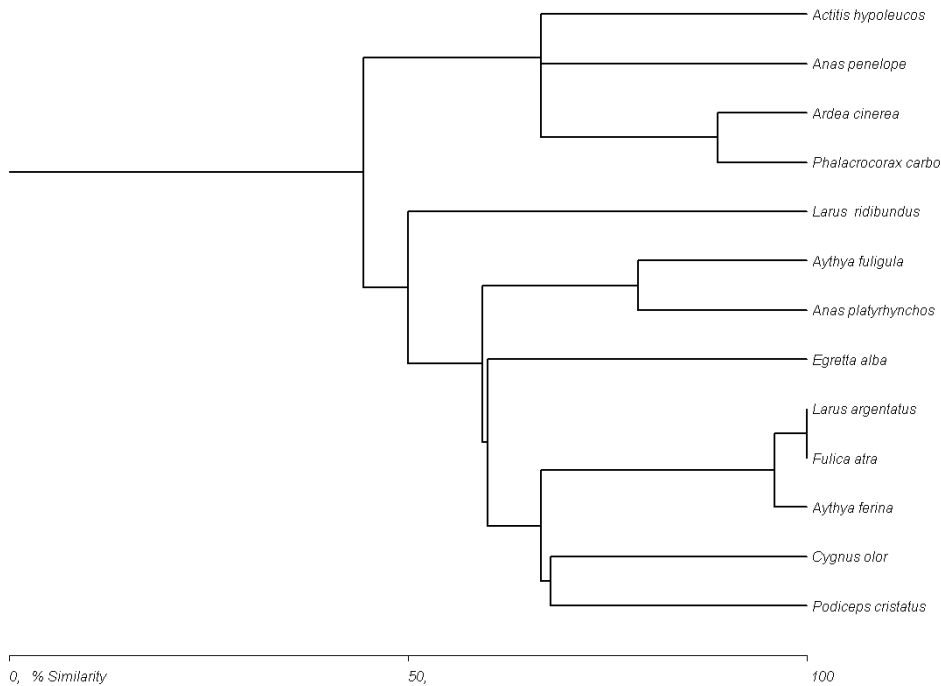


Figure 4 - The dendrogram of the coenotic affinity between the species dependent on water from the Budeasa Dam Basin.

On Pitești, there was a group of four characteristic species - *Actitis hypoleucos*, *Gallinula chloropus*, *Anas clypeata* and *Phalacrocorax carbo* (100.00% similarity, Fig. 6). They were observed only once, in April, and with 1 individual. Also, high coenotic affinities realised: *Anas crecca* - *Larus argentatus* (87.09%), *Aythya fuligula* - *Anas platyrhynchos* (86.36%), *Larus argentatus* - *Aythya fuligula* (86.27%), *Larus ridibundus* - *Aythya fuligula* (82.92%), *Aythya fuligula* - *Anas crecca* (81.35%), *Larus ridibundus* - *Anas platyrhynchos* (81.08%). The strengths of these species in the prevernal season ranged between 17 individuals (for *Larus ridibundus*) and 35 individuals (for *Anas crecca*). The eudominant species (*Aythya ferina*, 190 individuals) realised the largest coenotic affinity (34.68%) with *Fulica atra*, the following species as number of individuals (81).

On Golești Dam Basin, *Recurvirostra avosetta* and *Ardea cinerea* - species observed in April, with 7 individuals, on a side, and *Sterna hirundo*, *Tringa ochropus*, *Charadrius dubius* and *Podiceps nigricollis* - species also observed in April, but with 2 individuals, on the other side, can be considered the characteristic

species (Fig. 7). High similarities were recorded also between: *Larus argentatus* and *Anas crecca* (96.27%), *Phalacrocorax pygmeus* and *Anas penelope* (92.30%), *Cygnus olor* and *Anas querquedula* (88.52%), *Anas platyrhynchos* and *Anas crecca* (86.60%), *Larus ridibundus* and *Larus argentatus* (84.21%), *Anas platyrhynchos* and *Larus argentatus* (83.62%), *Larus ridibundus* and *Anas crecca* (81.25%). *Cygnus olor*, *Anas platyrhynchos*, *Anas crecca*, *Larus argentatus* and *Larus ridibundus* were the species observed in both months, while the others were observed only once. The species with the largest strengths (*Aythya fuligula* - 1,259 individuals and *Aythya ferina* - 460 individuals), present on the area in both months, realised a similarity of only 53.51%.

Bray-Curtis Cluster Analysis (Single Link)

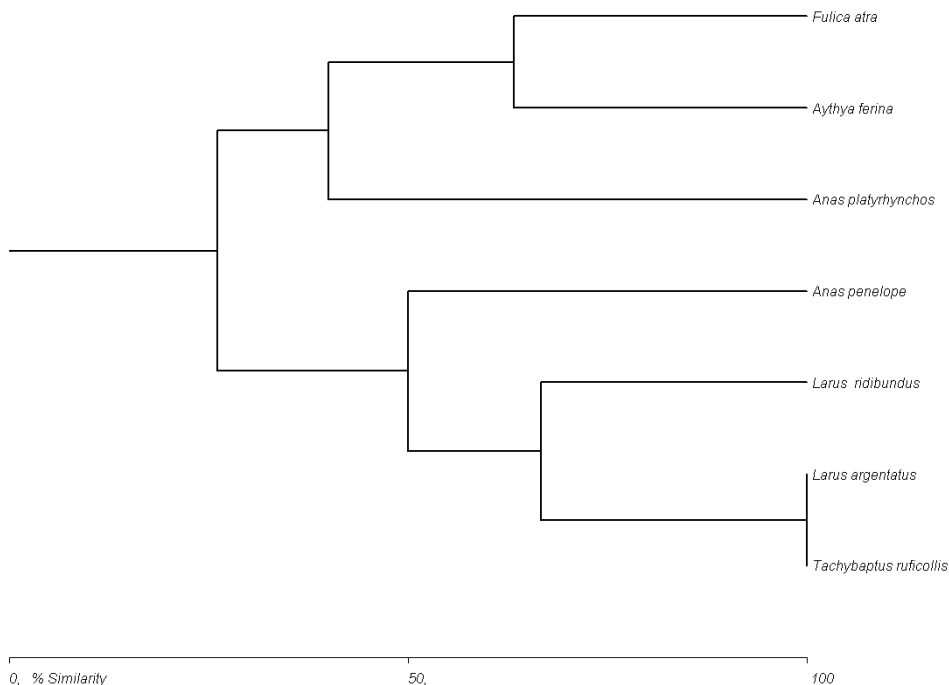


Figure 5 - The dendrogram of the coenotic affinity between the species dependent on water from the Bascov Dam Basin.

Regarding the avicoenoses of the dam basins, the highest similarities by Bray-Curtis (Fig. 8) was stated between Pitești and Bascov (52.52%) and between Budeasa and Vâlcele (51.06%), while the lowest similarity was between Golești and Budeasa. It is interesting that, in April, one of the biggest anthropogenic pressure, the sportive activities on the water, manifested both Bascov and Pitești, while, in March, it was absent. The two adjacent basins have similar areas. On the

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other side, Vâlcele and Budeasa are the lakes from the upstream and, again, they have almost the same area.

Bray-Curtis Cluster Analysis (Single Link)

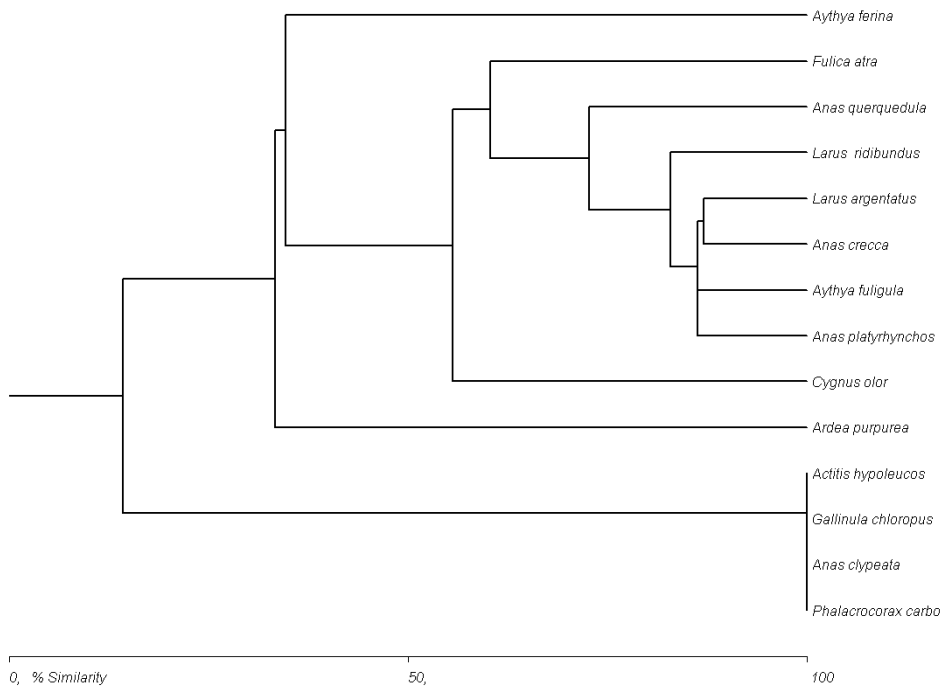


Figure 6 - The dendrogram of the coenotic affinity between the species dependent on water from the Pitești Dam Basin.

### CONCLUSIONS

The exclusively or largely dependent on water avifauna of the prevernal season from the Vâlcele, Budeasa, Bascov, Pitești and Golești Dam Basins from ROSPA0062 - Lacurile de acumulare de pe Argeș recorded 29 species that numbered 4,171 individuals.

15 species (51.72% of all) - *Podiceps cristatus*, *Phalacrocorax carbo*, *Egretta alba*, *Ardea cinerea*, *Cygnus olor*, *Anas platyrhynchos*, *Anas penelope*, *Anas querquedula*, *Anas crecca*, *Aythya fuligula*, *Aythya ferina*, *Fulica atra*, *Charadrius dubius*, *Larus argentatus* (ssp. *cachinnans* and *michahellis*), *Larus ridibundus* - were observed both March and April and 3 species (10.34%, *Aythya fuligula*, *Aythya ferina* and *Fulica atra*) were eudominant.

Bray-Curtis Cluster Analysis (Single Link)

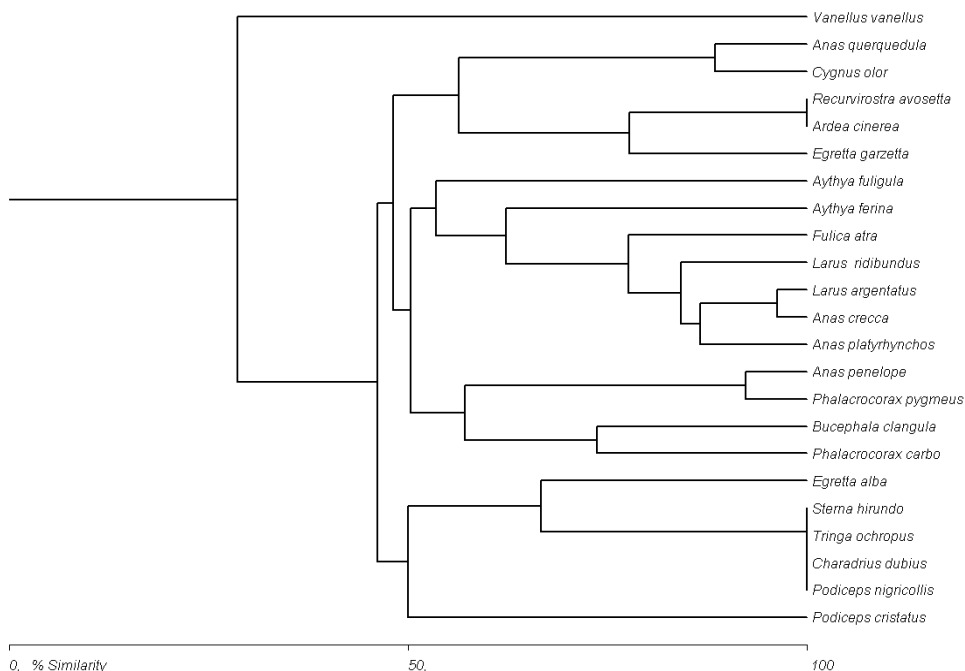


Figure 7 - The dendrogram of the coenotic affinity between the species dependent on water from the Golești Dam Basin.

For the whole area, *Vanellus vanellus*, *Ardea purpurea*, *Sterna hirundo* and *Tringa ochropus* can be considered the characteristic species. Depending on the component dam basins, the characteristic species were: *Chlidonias hybridus* and *Larus ridibundus*, on Vâlcele, *Larus argentatus* and *Fulica atra*, on Budeasa, *Larus argentatus* and *Tachybaptus ruficollis*, on Bascov, *Actitis hypoleucos*, *Gallinula chloropus*, *Anas clypeata* and *Phalacrocorax carbo*, on Pitești and *Recurvirostra avosetta*, *Ardea cinerea*, *Sterna hirundo*, *Tringa ochropus*, *Charadrius dubius* and *Podiceps nigricollis*, on Golești. Generally, these species were observed in low number and at a field trip, fact that can be related to the large mobility of the species from the prevernal season, manifested both as constancy and dominancy. Also, an important role can play the anthropogenic pressure, which was inconstant as force in time and space. Because of the large discrepancies between the strengths, the dominant and eudominant species at general or local level registered usually moderate or low coenotic affinities with the other species.

To increase the accuracy of the results, more field trips in the prevernal season should be performed.

THE COENOTIC AFFINITY OF THE WATER BIRDS SPECIES FROM SOME DAM BASINS OF THE ARGEȘ RIVER IN THE PREVERNAL SEASON

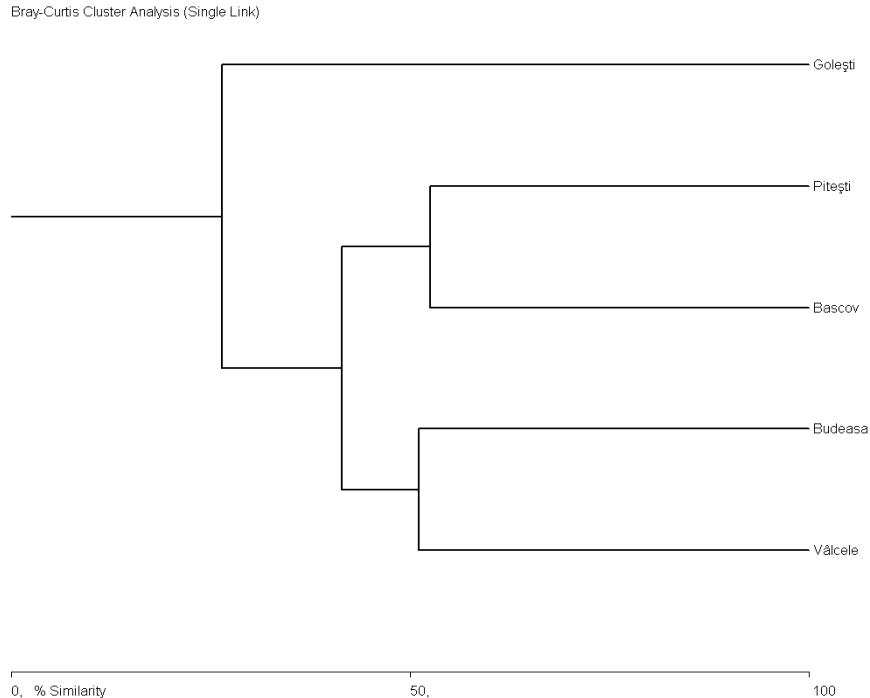


Figure 8 - The dendrogram of similarity between the dam basins avicoenoses by Bray-Curtis Index.

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