

# ORNITHOLOGICAL REASONS FOR A NATURAL RESERVATION FOUNDING IN THE ZONE OF PISCICULTURAL LAKES ARINIȘ (MARAMUREȘ)

Gavril Ardelean\* and Iosif Béres\*\*

\*North University Baia Mare

\*\*Maramureș Museum from Sighetu Marmăției

**Argument.** After editing the book “*Vertebrates fauna from Maramureș*” (Ardelean and Béres, 2000), the authors set as a goal the drawing up of the monograph “*Flora and fauna of Baia Mare Depression*”. Taking into account the fact that the bibliographic references regarding the zone’s ornithofauna are extremely poor, we started fast to research it, by stimulating an ample collective of specialists in this domain. After only a few going outs we established that the zone of the piscicultural lakes from Ariniș (Maramureș) is a territory with a remarkable variety and richness of the fauna, so that we continued and widened the research in the zone.

**The natural frame of the zone.** The researched territory belongs to Baia Mare Depression (figure no 1) and it is a region without great surfaces of sitting waters. As a result, the humid zones are limited to the rivers Someș, Lăpuș and Sălaj, and also their meadows, most of them transformed into agricultural plots. The researched zone lies effectively in the SV of the region, representing an appendix between the Sălaj Hills, which limit the edge of Baia Mare Depression, prolonged up in the meadow of Sălaj, a river which has a rich flow. In the Sălaj Valley there have been made many artificial piscicultural ponds (fish ponds), which occupy by sum more then 100 ha, all situated on the territory of locality Ariniș.

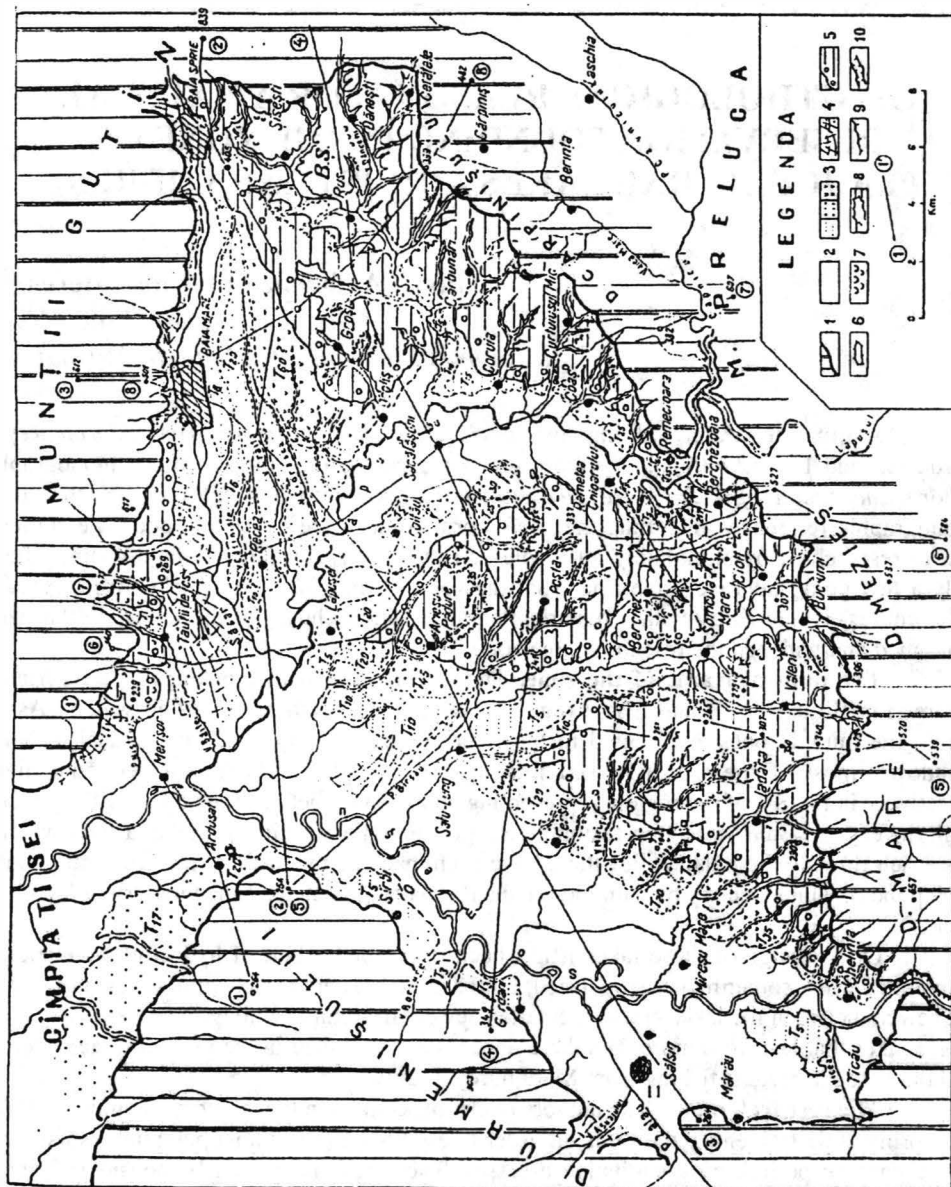
On the edge of these lakes it has been developed a belt of hydrofoil vegetation, sometimes wide, sometimes narrow (reed, bulrush, etc.). There is rich similar vegetation on the sewers between the lakes and alimentation sewers from Sălaj Valley.

These lakes that last from more then three decades are exploited in the piscicultural system, and they are the biggest fishing from Maramureș County.

**The research mode.** The authors made inspections in the territory in autumn 2000 and spring 2001 to identify the birds, in order to establish the avifauna potential, especially in the passage period, by quantitative assesses. These researches can be considered only preliminary investigations. With all these, the recorded data proved to be extremely promising.

**Research results.** They are presented in Table no 1. There have been traced out till now 31 species of aquatic birds or other species typical for humid zones. From these, some as: *Casmerodius albus*, *Anas clypeata*, *Aythya nyroca*, are on the red roll, as endangered species, especially protected by the law, and others as: *Mergus merganser*, *Bucephala clangula*, etc., are rare species near the waters from the country.

These places are excellent habitats for halt and food for the birds through autumn and spring passage. Our researches allowed, along with the tracing out of the rare species, also a remarkable concentration of ducks, birds common for humid zones, seagulls, etc.



**Figure no 1 – Geomorphologic map of Baia Mare Depression**

1. limits of the depression; 2. meadows; 3. terraces; 4. cones for dirty waters elimination; 5. hill regions formed by elimination cones; 6. erosion controls; 7. slides; 8. torrential valleys; 9. slopes; 10. narrow paths; 11. lakes from Ariniș. 1-1'. profiles' direction; B. Ș., erosion basin Șișești.

For example, we can mention the following observations: in 22.03.2001 - more than 300 exemplars of *Anas querquedula*, in 18.10.2000 - more then 200 exemplars of *Anas platyrhynchos*, in 29.03.2001 the number of *Larus ridibundus* exceeded 250 exemplars, and

the number of *Fulica atra* exceeded 200 exemplars. Typical species for humid zones from the genders *Tringa*, *Calidris*, *Gallinago*, *Vanellus*, etc. were abundant, feeding themselves from the waters with low depth, unused in pisciculture. The number of *Ardea cierea* was between 30-50 exemplars, through the entire going out in the territory.

**Table no 1 -** List with aquatic birds and with those common in humid zones, observed between 18.10.2000 – 5.04.2001

No	Name of the species	Frequency	Maxim number of exemplars per day
1.	<i>Podiceps cristatus</i> (Linnaeus)	5	18
2.	<i>Podiceps nigricollis</i> C. L. Brehm	3	9
3.	<i>Tachy baptus ruficollis</i> (Pallas) Synonym <i>Podiceps ruficollis</i>	3	6
4.	<i>Casmerodius albus</i> (Linnaeus) Synonym <i>Egretta alba</i>	5	5
5.	<i>Ardea cinerea</i> Linnaeus	5	48
6.	<i>Anas platyrhynchos</i> Linnaeus	5	224
7.	<i>Anas querquedula</i> Linnaeus	4	300
8.	<i>Anas clypeata</i> Linnaeus	3	5
9.	<i>Anas crecca</i> Linnaeus	3	43
10.	<i>Anas strepera</i> Linnaeus	1	1
11.	<i>Aythya ferina</i> (Linnaeus)	2	8
12.	<i>Aythya nyroca</i> (Güldenstädt)	5	12
13.	<i>Bucephala clangula</i> (Linnaeus)	3	4
14.	<i>Mergus merganser</i> Linnaeus	2	10
15.	<i>Circus aeruginosus</i> (Linnaeus)	2	4
16.	<i>Circus cyaneus</i> (Linnaeus)	1	1
17.	<i>Gallinula chloropus</i> (Linnaeus)	1	4
18.	<i>Fulica atra</i> Linnaeus	4	91
19.	<i>Pluvialis apricaria</i> (Linnaeus)	1	4
20.	<i>Vanellus vanellus</i> (Linnaeus)	5	137
21.	<i>Calidris alpina</i> (Linnaeus)	1	15
22.	<i>Philomaxus pugnax</i> (Linnaeus)	1	5
23.	<i>Gallinago gallinago</i> (Linnaeus)	1	5
24.	<i>Tringa totanus</i> (Linnaeus)	2	71
25.	<i>Tringa nebularia</i> (Gunnerus)	1	25
26.	<i>Tringa glareola</i> Linnaeus	1	15
27.	<i>Larus ridibundus</i> Linnaeus	5	260
28.	<i>Larus minutus</i> Pallas	2	15
29.	<i>Motacilla flava</i> Linnaeus	1	1
30.	<i>Remiz pendulinus</i> (Linnaeus)	1	1
31.	<i>Emberiza schoeniclus</i> (Linnaeus)	1	4

**Frequency: 1-5 (from 5 five days of research)**

Our data prove clearly that these lakes are situated in a major migration way of the birds (up the hill on Someș Valley). We also visited in similar periods the dam lake Firiza-Strâmtori, where we didn't find either an exemplar of aquatic birds.

Certainly, our list is incomplete because it was limited to only a few going outs in the mentioned period. Also, the continuation of our researches is necessary in the nestling and in the winter period. We are convinced that local species, as *Anas platyrhynchos*, *Fulica atra* and some species of *Podiceps sp.* will nestle near these lakes in a smaller number of pairs than the passage from mild winter 2000-2001. *Ardea cinerea*, which has a powerful colony in the Bavna Forest natural reservation, at 10-11 km in straight line, will use these humid zones as feeding place.

**Ecological proposal.** These ornithological arguments justify us to request the declaring of piscicultural lakes from Ariniș as *ornithological reservation*, in concordance with RAMSAR Convention that refers to protection of humid zones, to which our country also adhered.

In case that this reservation is achieved, we can expect the appearance of other species of aquatic passage birds, and the number of nestling pairs would increase.

In this reservation should be included also the zones that weren't flooded till now along with existent lakes, as well as the meadow of Sălaj river, covered with a hydrofoil vegetation between the two lake systems from the zone.

The achievement of this reservation doesn't need a pulling out of the surfaces included in the current economic circuit. But some severe protection rules of the habitats and of the birds from here would be necessary, like: a). hunting banning; b). protection of hydrofoil vegetation around the lakes by burning and cutting banning; c). keeping the same destination for the plots in the meadow of Sălaj, maintaining the grasslands with hydrofoil vegetation; d). partial draining of the lakes while the fish is used; e). ensuring a systematic control for keeping the proposed protection rules.

In conclusion, it must be noticed the fact that by achieving this reservation, unique in its way in Maramureș county, our fame regarding the environment protection will enhance. Thus, the aquatic birds in the zone, the most endangered ecological group in Romania and at an European level, would be protected. Otherwise, the favorite habitats for them – the humid zones, would be destroyed.

As an economic aspect, great concentration of the birds will not modify the fish production, because the bird species that gather in a larger number (ducks, birds typical for humid zones, moor hens, etc.) feed themselves with inferior animals, invertebrates or with vegetal food. Herons or seagulls, feed themselves with diverse types of food, sometimes with fish, especially with species without economic importance, making in the same time a natural selection, as well as a hygienic cleaning of the lakes, by eating dead or ill exemplars that appear on the water surface.

## BIBLIOGRAPHY

- Ardelean G., Béres I., (2000) – *Fauna de vertebrate a Maramureșului*, Ed. Dacia, Cluj
- Ardelean G., Iulica Dehelean, (2000) – *Herpetofauna zonei Firiza (Baia Mare)*, Studii și comunicări, Seria Științele naturale, Ed. Muzeului sătmărean, pp. 155-159
- Ardelean G., (2000) – *Anseriformele din NV-ul României*, Studii și comunicări, Seria Științele naturale, Ed. Muzeului sătmărean, pp. 220-238
- Ardelean G., Dorina Ștefănescu, (2000) – *Chiropterele din județul Maramureș*, Studii și comunicări, Seria Științele naturale, Ed. Muzeului sătmărean, pp. 239-241

- Ardelean G., Béres I.,** (2000) – *Conspectul mamaloфаunei Maramureşului*, Studii şi comunicări, Seria Ştiinţele naturale, Ed. Muzeului sătmărean, pp. 254-267
- Ardelean G.,** (2000) – *Fauna Someşului de la strămtorile Țicăului la confluenţa cu Tisa*, Studii şi comunicări, Seria Ştiinţele naturale, Ed. Muzeului sătmărean, pp. 279-332
- Posea Gr., Moldovan C., Posea Aurora,** (1980) – *Judeţul Maramureş*, Ed. Acad. RSR, Bucureşti.

*Argumente ornitologice pentru înfiinşarea unei rezervaţii naturale în zona  
lacurilor piscicole Ariniş (Maramureş)  
(Rezumat)*

*Lucrarea propune înfiinşarea unei rezervaţii ornitologice în jurul lacurilor piscicole de la Ariniş (jud. Maramureş). Acestea oferă păsărilor un excelent habitat umed (atât pentru adăpost cât şi pentru hrană).*

*Argumentul principal al înfiinşării rezervaţiei este numărul mare de specii acvatice şi limicole din zonă, dar mai ales efectivele populaţiilor acestora, confirmând situarea sa pe una din căile majore de migraţie care trece peste teritoriul vestic al ţării noastre.*