BREEDING BIRDS POPULATIONS' EVOLUTION IN THE IBA „VLADENI" (IASI COUNTY, ROMANIA)

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ABSTRACT

Gache Carmen & Walie Muller J. (2004). Breeding birds populations' evolution in the iba „Vladeni" (Iasi County, Romania). *Proceedings of the 2nd Congress of Ecologists of the Republic of Macedonia with International Participation, 25-29.10.2003, Ohrid*. Special issues of Macedonian Ecological Society, Vol. 6, Skopje.

The Important Birds Area „Vladeni" is a large wetland – 2010 hectares (1730 ha aquatic surfaces) - situated at the confluence of Jijia River with Miletin River and represents the most important breeding area for birds in the Romanian basin of Prut River. Our studies in this area began in 1992' summer. In this territory, were recorded 201 birds' species from which 117 are breeding species. The breeding pairs number is increasing after 1995, when the fisheries administration introduce one strictly survey of the human activities on the fisheries territories. The grazing was completely eliminated in the 1995' summer. The hunting pressure is less – reduced to few days in august. During the breeding season, the sporting fishing is permitted on the only one pond in each fishery. From 1996, appeared *Anser anser* like breeding species. On the Jijia's ponds exist on of the largest mixed colony of herons in Romania, out of the Danube Delta territory.

We notice the presence of some very rare breeding birds' species in Romania: *Phalacrocorax pygmeus* (irregular), *Platalea leucorodia* (the only one breeding colony known out of the Danube Delta), *Aythia nyroca*, *Falco vespertinus*, *Limosa limosa* (11 pairs in the first breeding colony found in the north - eastern part of Romania, in 2003), *Recurvirostra avosetta* (irregular till 2001, 15 pairs in 2003), *Himantopus himantopus*, *Bubo bubo* (in Catachi forest), *Coracias garrulus* (the northern breeding site in Romania), *Luscinia svecica cyanicula* (the only one breeding site out of the Danube Delta).

The area has a local protected status, but now we are preparing the scientifically documentation in order to design it like a special protected area in Romania.

Introduction

The Vladeni wetland (code 014) – included on the Romania's IBA list with the name „Jijia and Miletin ponds" – is situated at 40 km north - west from Iasi city, around the confluence point of Miletin and Jijia Rivers. The access is possible by train and by car – on the county roads Iasi – Movileni (for the Jijia ponds, near Larga Jijia village) and Iasi – Plugari (for Borsa swamp, near Borsa village, Halceni Lake – Halceni village and Miletin ponds – Vladeni village).

The total surface is including 1730 ha aquatic surfaces and others 280 ha like canals and dams. This wetland was created during the '80 years in order to decrease the flooding risks in the Jijia's plain. In the over 20 years of existence of the Vladeni ponds paludous vegetation proliferated especially on the Borsa swamp (10 ha of reeds) and on the Jijia ponds (450 ha of reeds). It is much less developed on the Miletin ponds (15 ha). The paludous vegetation is lacking on the dam lake Halceni, its shores being either concreted (the northern and eastern ones), either cultivated with cereals till metres from the water. Near the Borsa swamp is the forest Coasta Borsei (58 ha) while SV from Miletin ponds is the forest Catachi (92 ha) - plantations of oaks, maples, hornbeams, beeches etc. There are present dry and flooding meadows near Vladeni village, by the western side of the Borsa swamp.

The Halceni dam lake is an important water source for region, including for the Jijia and Miletin ponds, but also for agriculture; the ponds and the Borsa swamp are used for fisheries.

Methods

Beginning the 1992's summer we have realized ornithological surveys in this IBA's territory. We used the method of transects and different counting methods, according to the birds species – points of counting (especially during the breeding period), circles counting (for passerines in landscapes) or night counting (for corncrake – *Crex crex*). Transects were established during our first visits and we kept them during whole study. The principal transects were choised on

the longest shores in the ponds case, with three - five second transects in the large fisheries (Larga Jijia, Vladeni); for the Halceni lake, the transect follows the whole perimeter; for Borsa swamp, the transect cover the southern and western shores. In the fishery from Larga Jijia, we visited the ciconiiforms breeding colonies by boat. We used also the ringing method, especially for reedbed passerines (*Locustella sp.*, *Acrocephalus sp.*, *Panurus biarmicus* and *Emberiza schoeniclus*); in this way, we could have the evidence of the birds returning in this breeding area.

Results and discussions

Wetland Vladeni's avifauna consists of 200 de species of birds that among 120 species are nesting in the area; from these three are irregular breeding: *Phalacrocorax carbo*, *Phalacrocorax pygmeus* and *Anas clypeata*. The breeding population is not great but is increasing every year after 1996, when the fisheries managers prohibited the grazing in the Jijia ponds perimeter and created a guarding service here introducing a strictly control of the visitors on the farm territory. The breeding birds diversity was increased also slowly, year by year, as we see in the Fig. 1.

This wetland territory is the most important breeding area in the whole Romanian Prut River basin. The compact reedbed, submersed and floating aquatic vegetation, and the rich aquatic fauna are the elements that transform the territory of ponds into an ideal place for the aquatic birds. Another species are breeding in the forests Catachi and Borsa or in the plantation between villages Mihail Kogalniceanu and Borsa. Many aquatic birds find satisfactory conditions and populate in large numbers the Jijia's and Miletin's ponds, especially the ones surrounded by reed strips or partially invaded by paludous vegetation (like Borsa swamp, Larga Jijia ponds, Vladeni ponds). Reed beds firstly represent a nesting place for majority of the species excepting grebes and terns that build floating nests on the water surface. In the reedbeds breed: herons, geese, swans, ducks, some rails and passerines.

Among the waterfowls nesting in the perimeter of the wetland Vladeni, the grebes and the terns: *Podiceps cristatus*, *Podiceps nigricollis* and *Chlidonias hybridus* forms a mixed colony on the Borsa swamp (absent in the years 1999 and 2000 when the area was dry for maintenance works, respectively, due the summer drought in 2003). Other two species - *Tachybaptus ruficollis* and *Podiceps grisegena* - are nesting solitarily, with small effectives on the Vladeni and Larga Jijia ponds. The largest breeding population for Borsa swamp was counted in the summer of 1998: 8 pairs of *Podiceps cristatus*, 21 pairs of *Podiceps nigricollis* and 23 pairs of *Chlidonias hybridus*; separated by the colony, were presented also 3 pairs of *Tachybaptus ruficollis* and one pair of *Podiceps grisegena*. The last two species have a negative trend.

The cormorants are seen like enemies on the fisheries' territories. They forms large groups during the migration, but also are breeding on the reeds – normally the fisheries workers are destroying their nests at the beginning of the breeding season. The Pygmy Cormorant (*Phalacrocorax pygmeus*) irregularly nest in the forest Catachi. At the beginning of years '90, the Cormorant (*Phalacrocorax carbo*) nested on willows at Larga Jijia; after the willows were cut, the cormorants started install their nests in the reed – similar to the Danube Delta – but succeed only if the nests were not found when the breeding season started (e.g. 1998, at the edge of herons colony, nested 22 pairs of cormorant, nests being discovered when the offspring already hatched, thus the farm staff quitted the idea of destroying it). The fisheries' managers respect the protected status of cormorants and use „peacefully" techniques to disturb them – strong sounds produced with arms or artizanal guns with calcium carbide, scarecrows (using the clothes took from the fishing poachers) or net of coloured flags.

The situation of the ciconiiforms breeding in the territory was monitored constantly, because in the reedbeds from Larga Jijia there is one of the largest colonies of herons from Romania, besides the Danube Delta, the most numerous population being recorded on a great pond where the reed forms large compact surfaces, but also some insular 'sheafs', ideal for installation of nests. Remarkable is the nesting on the reedbeds of certain species that prefer to nest in the trees: *Nycticorax nycticorax*, *Egretta garzetta* and *Ardea cinerea*.

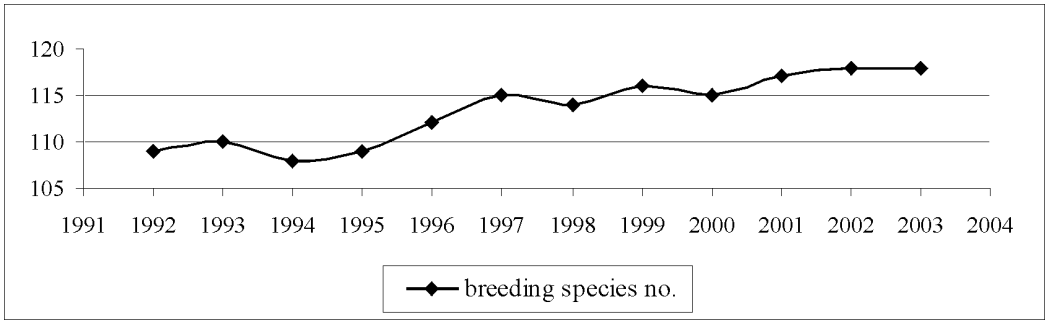

Fig. 1. The evolution of the breeding species' number in Vladeni wetland (Iasi county, Romania)

There exists one of the most important breeding colonies of herons, egrets and spoonbills on the reeds – around 250 pairs in 2002. The population of breeding ciconiiforms is increasing year by year. For example, in 2000, due the monitoring realised for „*Biodiversity Conservation in Vladeni wetlad (Iasi county, Romania)*", sustained by British Petroleum Programme, we counted: 80 pairs of *Ardea cinerea,* 4 pairs of *Ardea purpurea*, 48 pairs of *Egretta alba,* 37 pairs of *Egretta garzetta*, 20 pairs of *Nycticorax nycticorax*, 2 pairs of *Ardeola ralloides*, 18 - 20 pairs of *Ixobrychus minutus* and 37 pairs of *Platalea leucorodia*. The breeding population of the Bittern (*Botaurus stellaris*) is hard to estimate due to its life hidden in dense reed thickets, cryptic coloration and polygamous males; in May, the males of Bittern are sonorously recorded – the male number is increasing from two exemplars in 1993 to 5 males in 2001 - 2003. Another small heron species, *Ardeola ralloides*, is breeding here, probably, from 1997; in 2002, were counted 12 pairs. The Spoonbill - *Platalea leucorodia*, has there the only one colony out of the Danube Delta known till now in Romania and the breeding population is increasing every year, from 9 pairs in 1997 to 47 pairs in 2002.We must notice here that began with the 2001's summer, we saw constantly 4 –5 exemplars of *Plegadis falcinellus* flying between two ponds from Larga Jijia farm, but we have not an evidence of breeding. We could give this species like possible breeding.

Number of the breeding pears of anseriforms is quite small in the wetland Vladeni but certain species quite rare in the eastern Romania are present in the area: 2 - 4 pairs of *Cygnus olor* are nesting every year on the Larga Jijia ponds after 1997;in 1996, one pair with five juveniles was found on Borsa swamp. The Greylag Goose (*Anser anser*), species very sensitive to the anthropogen factor, nested irregularly prior to1993; it was absented in 1994 - 1995 and reappeared with one pair in 1996. Beginning with 1997, 6 - 8 pairs nested in the reedbeds of the Larga Jijia ponds – this is the only one site where the Greylag Goose is breeding in the Romanian Prut River basin. The Shoveler (*Anas clypeata)* is an irregularly nesting species. The Ferruginous Duck (*Aythia nyroca*) became a constant presence at Larga Jijia from 1997 with one pair till 2000; two females with ducklings were observed in 2000 – 2001, respectively, three pairs in 2002 - 2003.

Between the raptors species, *Falco vespertinus* is breeding with one pair from 1995 and two pairs from 2001; *Circus aeruginosus* is a commonly species with four pairs in 2003. In the farms and villages perimeter, are breeding three pairs of *Athene noctua*; in Catachi forest, is breeding one pair of *Bubo bubo*.

The Corncrake (*Crex crex*) is present only with three pairs despite the areas with favourable habitats is very large (is used for grazing).

In Vladeni wetland, was founded the first breeding site for waders in the eastern part of Romania. The breeding species are: *Vanellus vanellus*, *Charadrius dubius*, *Limosa limosa*, *Recurvirostra avosetta* and *Himantopus himantopus*; the pairs number is increasing slowly. During the 2003' breeding season, were counted 35 pairs of Lapwings, 5 pairs of Little-ringed Plovers, 11 pairs of Black-tailed Godwits, 15 pairs of Avocets and 4 pairs of Black-winged Stilts.

The breeding gulls and terns were represented by 5 species: *Larus ridibundus*, *Larus argentatus cachinnans*, *Chlidonias hybridus*, *Chlidonias niger* and *Sterna hirundo*. The last species were found with maximum 5 pairs prior to 1999, when 63 pairs formed a mixed colony with two pairs of *Himantopus himantopus* and two pairs of *Charadrius dubius* on an isle of one pond at Larga Jijia. The colony is still there, but in the last two years, only one pair of each waders' species were presented; in 2001, we found also the nest of one pair of *Aythia nyroca*.

Remarkable is that after 1997 two pairs of Rollers (*Coracias garrulus*) nested in the abandoned clay pit near the Larga Jijia farm – this is the northern limit of the breeding area in Romania; between 1997 – 1999, only one pair was breeding here; in 2000, appeared the second pairs. The constant presence of the Kingfisher (*Alcedo atthis*) in the perimeter of the Larga Jijia ponds and of immature birds, inclusively, suggested that the species probably breeds in the perimeter, but we had the evidence of the breeding only in

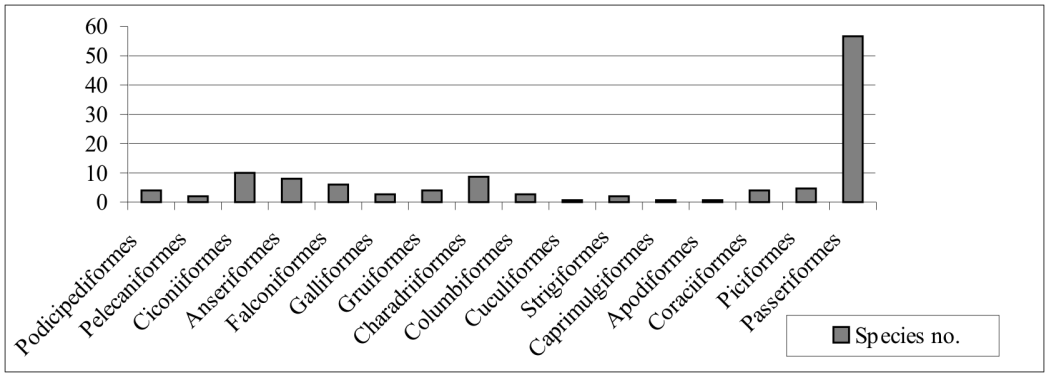

Fig. 2. Avifauna breeding in Vladeni wetland (Iasi county, Romania)

Tab. 1. New breeding species in Vladeni wetland and eastern part of Romania

Crt. No.	Species	Year of first breeding
1.	Ardeola ralloides	1997
2.	Platalea leucorodia	1997
3.	Aythia nyroca	1997
4.	Charadrius dubius	1996
5.	Limosa limosa	2003
6.	Himantopus himantopus	1999
7.	Recurvirostra avosetta	1996
8.	Sterna hirundo	1993
9.	Chlidonias hybridus	1993
10.	Coracias garrulus	1997
11.	Luscinia svecica cyanicula	1993

2001, when we saw one adult going in the nest with nourishment for chicks.

The reedbirds are abundant in the reedbeds of the wetland Vladeni. It is possible that increased by time from one year to another according to the reedbeds extension. Among the species surely breeding: *Acrocephalus schoenobaenus*, *Acrocephalus scirpaceus*, *Acrocephalus arundinaceus*, *Locustella luscinioides*, *Panurus biarmicus*) and *Emberiza schoeniclus*. We mentions the presence of the Bluethroat (*Luscinia svecica cyanicula*) nesting at Larga Jijia, species extremely rare in Romania - it is breeding with one pair and this is the only one breeding place in Romania out of the Danube Delta territory.

As we see in the Fig. 2, 57 passerines species and 39 aquatic or semi-aquatic birds form the most part of breeding avifauna; the rest of species are breeding in forests, agricultural fields or near the buildings.

In the table 1, is shown the year of first certainly breeding for the new breeding species in Vladeni wetland area.

In fisheries, one of the biggest problem is represented by the fishing poachers activity. The aquatic birds can die catched in nets installed under the water. By the other hand, in order to increase the control of their presence, but also for economical reason – the water's price and the low production in the ponds nearest Mihail Kogalniceanu village - the managers of the Jijia ponds decided to reduced the aquatic surfaces and let two large ponds without water from 2001, using it like agricultural fields. This is great damage for birds because one of these ponds represented before the most important eating place for the breeding population.

A ratio of this territory avifauna and that recorded for Romania emphasises that the wetland Vladeni shares 53.33% of the total amount of species present in the country. Due to the presence of: spoonbills, cormorants, herons, egrets, ducks, gees, swans, gulls, warblers, nightingales, etc. the image of a small delta is created. It is sure, on the other hand, that in the last 5 - 6 years species that were missing a time ago appeared, such as: *Cygnus olor, Egretta alba, Ardeola ralloides, Platalea leucorodia, Himantopus himantopus, Recurvirostra avosetta, Limosa limosa, Coracias garrulus,* etc. Based on inhabitants' reports, one can say that flocks of ducks and geese that halt here are much larger than 10 - 15 years ago and also their time to be stationed on the ponds.

The wetland Vladeni could be never dried, due to its surface and multiple uses. The Romanian Ornithological Society is working now to obtain a legally special protected area status for this territory. We must say here that Jijia and Miletin's ponds are considered protected territories by Resolution 8 / 1994 of the Iasi County Council.

Conclusions and recommendations

The importance for birds of Vladeni wetland is pointed out as we see:

- Here were mentioned for first time like breeding birds in the Romanian Prut River basin, species like: Ardeola ralloides, Platalea leucorodia, Aythia nyroca, Himantopus himantopus, Recurvirostra avosetta, Charadrius dubius, Limosa limosa, Chlidonias hybridus, Sterna hirundo, Coracias garrulus and Luscinia svecica cyanicula;
- We notice the presence like breeding birds of some globally threatened species or declining birds species: Phalacrocorax pygmeus, Aythia nyroca, Crex crex, Ixobrychus minutus, Ardeola ralloides, Botaurus stellaris and Falco vespertinus;
- It is the only place in the Prut River's basin where nest the species: Ardea purpurea and Platalea leucorodia;
- It is one of the few sites from the Prut River's basin where are breeding Egretta alba, Egretta garzetta, Ardeola ralloides;
- It is the only one breeding place in Romania out of the Danube Delta territory for two species: Platalea leucorodia and Luscinia svecica cyanicula;
- It is the northern limit of the breeding area in Romania for Coracias garrulus;

– Breeding populations of the species Egretta alba and Platalea leucorodia living in this perimeter are the largest in Romania besides Danube Delta.

The fisheries guarding system assure indirectly the avifauna protection in Vladeni wetland area; only the fisheries managers in the all areas do not agree the fish-eating birds species. In order to preserve this natural treasure, we recommend:

– To establish an integrated protection system for this wetland from the Prut River Basin, viewing the documentation in order to include this area within 'Nature 2000 Network', according to the Directive no. 92/43/CEE from May 21st 1992;
– To assess the human impact for the plants and animals' diversity;
– To set up an ecological management of these wetlands on the principles of the sustainable development sustainable development management, with a periodical monitoring of the biodiversity and the level of the human pressure in these territories.

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