MUZEUL JUDEȚEAN ARGEŞ, PITEŞTI, ROMÂNIA
ARGESIS *- STUDII ŞI COMUNICĂRI - seria ŞTIINȚELE NATURII,* **TOM XXI**, 2013

BRIEF HISTORICAL REVIEW OF ORNITHOLOGICAL RESEARCH ON THE MIDDLE BASIN OF THE ARGEŞ RIVER

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ABSTRACT. The history of Romanian ornithology began with Carol Wallstein de Wella, who, in 1853 published his book entitled **Elemente de ornitologie** (Elements of Ornothology). The wintering of birds in our country was initially studied by Paşcovschi (1968). As regards the creation of numerous reservoirs, Munteanu (1963; 1968; 1969), Mătieş and Kohl (1965) signalled that many species had settled in these regions as winter guests. The beginnings of the research on the aquatic avifauna of the reservoirs created in the upstream or midstream regions are due to Dan Munteanu (1961-1966), who continued his work together with Mătieş (1973-1982). In their study – **Modificări induse de lacurile de acumulare în structura şi dinamica avifaunei** (Changes Induced by Basins in the Structure and Dynamics of the Avifauna - Munteanu and Mătieş (1983) presented a synthesis of the changes that had taken place in the structure and dynamics of the avifauna due to the modifications in the Arges River basin. After 1999, many of our articles (Radu Gava, Adrian Mestecăneanu, Denisa Conete) added new data to the previous research studies.

Key words: ornithological research, brief historical review, Argeş River, reservoirs, protection.

REZUMAT. Scurt istoric al cercetărilor ornitologice din bazinul mijlociu al râului Argeş. Istoria ornitologiei româneşti îşi are începuturile în cartea lui Carol Wallstein de Wella, care în 1853 a publicat lucrarea intitulată **Elemente de ornitologie**. Iernatul păsărilor, în țara noastră, a fost studiat inițial de Paşcovschi (1968), iar în ceea ce priveşte apariția lacurilor artificiale de acumulare a fost semnalată instalarea a numeroase specii oaspeți de iarnă: Munteanu (1963; 1968; 1969), Mătieş şi Kohl (1965). Cercetarea avifaunei acvatice de pe lacurile de acumulare, create pe cursul superior şi mijlociu al Argeşului, a fost începută de Dan Munteanu (1961-1966) şi continuată împreună cu Matieş (1973-1982). În **Modificări induse de lacurile de acumulare în structura şi dinamica avifaunei**, Munteanu şi Matieş (1983) au făcut o sinteză a modificărilor apărute în structura şi dinamica avifaunei datorate transformărilor apărute în bazinul Argeşului. După anul 1999 numeroase articole (Radu Gava, Adrian Mestecăneanu, Denisa Conete) au completat vechile cercetări.

Cuvinte cheie: cercetări ornitologice, scurt istoric, râul Argeş, lacuri de acumulare, protecție.

From the oldest times, birds have called our attention, both by their appearance and behaviour. We are fascinated especially because we associate them with the idea of freedom. The first rustic drawings that depict birds date back to the

Stone Age, for example the birds sketched on the walls of the Tajo Segura Cave, in Spain or those found in the Gaura Chindiei Cave, in Romania. In the old Egyptian ceramics we have the first painted image of a bird - the Flamingo. The first representations of birds in our country were discovered in the Precucuteni Culture (4.500-4.000 B. C.). The Mallard is also present here, as a result of domestication. The Romanian archaeologist Dan Monah acknowledges that the first domesticated birds were mallards, due to the fact that most of the times our ancestors settled near water sources (Rang, 2002). The study of their behaviour, in close correlation with ecology, has occupied a central role within ornithological research.

Until around 1925, the avifauna of our country was occasionally studied by different travellers and hunters, and more substantially by zoologists and ornithologists, most of them foreigners, not Romanian scientists. Thus, the first reference goes back to 1622, when the traveller Samuel Twardowski mentioned the existence of big flocks of cranes and swans among the numerous birds he saw in the Danube Holms, at Giurgiu. But ornithological research in Romania was not conducted separately from the global and especially from the European context (Rang, 2002).

The Romanian ornithological history certainly has its origins in Carol Wallstein de Wella's book, published in 1853 and entitled **Elemente de ornitologie** (Elements of Ornithology), in which he referred for the first time in the Romanian scientific literature to the habit of the Shelduck (*Tadorna tadorna*) (Linnaeus, 1758) of nesting in fox dens, observations he made in the Oltenia region (Băcescu & Tăzlăoanu, 1953; Wallstein, 1853). Yet, the fundamental Romanian work on ornithology remains **Ornis Romaniae** by Robert Ritter von Dombrowski, published in German in 1912 and then translated, reorganized, and completed by Dionisie Linţia. It was edited in three volumes as **Păsările României** (Birds of Romania) (1946-1955). The most complete works on the avifauna of Romania are those written by Dombrowski and Linţia (Dombrowski, 1912; 1946; Linţia, 1954; 1955), which comprise not only identification keys, but also valuable observations on the biology of each species (Rang, 2002). Dionisie Linţia, a complete ornithologist and a renowned scientist, dedicated over 50 years of his life to the study of birds. He is the first modern Romanian ornithologist, the founder of the biggest and broadest collection of native birds.

The wintering of birds was studied by Paşcovschi, Papadopol and Tălpeanu (Paşcovschi, 1968; Papadopol, 1957; 1960; Tălpeanu, 1969; 1970). As regards the creation of numerous reservoirs, besides the partial modifications of some routes of passage, it was signalled that many species settled in these regions as winter guests, both on the surfaces of the lakes and in the neighbouring areas (Munteanu, 1963; 1968; 1969; Mătieş & Kohl, 1965; Radu, 1964; Rang, 1967; Tălpeanu, 1970).

The number of the Romanian works on ecology is growing as the study of the biology of bird populations is given more and more importance, mainly in those regions where the reservoirs and the other major interventions by human activity

have caused extensive and profound changes in the environment, followed by changes in bird communities.

The observations made on birds have been most often linked, consciously or involuntarily, to the situation of the environment.

The Argeş River drains most of the southern slope of the Făgăraş Mountains, the corresponding Subcarpathian region, the eastern part of the Getic Piedmont and a vast area of the Romanian Plain (Barco & Nedelcu, 1974). The Argeş Valley is one of the most important bird migration routes in our country. Thus, after 1960, a series of reservoirs was created. These have been used to produce electrical power. The creation of this chain of reservoirs has led to a strong anthropization of the natural landscape and produced important changes in the qualitative and quantitative structure of the ornithofauna (Gava, 1997; Munteanu & Mătieş, 1983).

Mihai C. Băcescu, in his work **Păsările în nomenclatura şi viaţa poporului român** (Birds in Romanian Nomenclature and Everyday Life of the Romanian People) mentioned some localities in the Argeş county and the neighbouring areas, from which he collected regional names, sayings or information that offered indications regarding the distribution of many birds species in the past (Băcescu, 1961).

Aurel Papadopol (Papadopol, 1965)**,** in his work entitled **Contributions à la connaissance de la systématique, répartition et biologie d' *Alcedo atthis* (L.) en Roumanie** (Contributions to the Knowledge of the Systematics, Distribution and Biology of *Alcedo atthis* (L.) in Romania), based on a material which resulted from different regions of our country, showed the distribution of the subspecies of Kingfisher (*Alcedo atthis*) (Linnaeus, 1758) found in our country. The author concluded that all the southern part of our country, except for the high mountain peaks, was populated by *Alcedo atthis atthis* (Linnaeus, 1758).

In his work, **Cercetări biometrice, morfologice şi sistematice cu privire la populaţia de *Lanius excubitor* L. din Republica Socialistă România** (Biometric, Morphologic and Systematic Research on the Population of *Lanius excubitor* L. in the Socialist Republic of Romania)*,* Mircea Mătieş performed a biologic and morphologic analysis of the Great Grey Shrike population of our country. The author observed that *L. e. excubitor* Linnaeus, 1758 nested in the provinces of Crişana, Transylvania and north-western Moldavia, while the species *L. e. homeyeri* Cabanis, 1873 probably nested in the plains from the south-western part of the country (Mătieş, 1968).

In volume II (1969) of Studies and Communications, the journal of the Museum of Piteşti, Mircea Mătieş published the article **Cercetări avifenologice de-a lungul bazinului mijlociu şi superior al Argeşului** (Research on Bird Phenology along the Middle and Upper Basins of the Argeş River). The author conducted a series of analyses in the regions of the Argeş basin which allowed him to make some specifications concerning the migration of birds. In the case of *Anas querquedula* Linnaeus, 1758*,* he indicated the small-scale night migration to the east. For *Anthus spinoletta* (Linnaeus, 1758)*, Buteo buteo* (Linnaeus, 1758)*,*

Carduelis spinus (Linnaeus, 1758), *Miliaria calandra* (Linnaeus, 1758), *Lanius collurio* Linnaeus, 1758, the author indicated the fact that they migrate to the north through the Argeş basin. It was determined that for the species *Motacilla alba* Linnaeus, 1758, *Sturnus vulgaris* Linnaeus, 1758, *Merops apiaster* Linnaeus, 1758, *Vanellus vanellus* (Linnaeus, 1758), migration took place along the Argeş River (to NNW), probably to the Olt Defile. It was also established that for many species of birds that migrated through the territory of our country, the Argeş River basin was one of the main migration routes, even if at the north there was a barrier represented by the Făgăraş-Iezer Mountains and many authors considered that the passage was strongly influenced by this chain of mountains. In his opinion, the mountain barrier led to the appearance of two main migration directions, both crossing the Argeş Basin: one towards the Olt Defile and the other to the Bran Pass, with some species flying over the peak of the Făgăraş Mountains. Over 250,000 individuals from 53 species were determined in the field and recorded; some specimens were collected and preserved and documentary photos were taken (Mătieş, 1969).

Working in collaboration with R. Stancu and L. Stănculescu**,** Mătieş published the book **Izvoarele Colcot de lângă Topoloveni (jud. Argeş) - loc de iernare pentru păsări** (Colcot Springs near Topoloveni (Argeş County) - a Wintering Site for Birds) (Mătieş et al., 1969). Mircea Mătieş and Radu Gava (Mătieş & Gava, 1971) also presented in their article **Alte exemplare document în colecţia ornitologică a Muzeului din Piteşti** (Other Typical Specimens in the Ornithological Collection of the Museum of Piteşti), novel scientific data regarding four bird species from the upper and middle basins of the Argeş River.

In his work **Contribuţii la cunoaşterea migraţiei carpatice a păsărilor** (Contributions to the Knowledge of Bird Migration through the Carpathian Passage), Mircea Mătieş presented information about the passage of birds through the Făgăraş Mountain area and the southern region of it: the author made reference to collecting a specimen of Red-throated Loon (*Gavia stellata*) (Pontoppidan, 1763) on November 8, 1969 on the Argeş River, at Piteşti, as well as to the delayed migration of the White Stork (*Ciconia ciconia* Linnaeus, 1758) in the spring of 1969, which was characterized by a much colder weather than usual (Mătieş, 1971).

In the work **Contribuţii privind cunoaşterea situaţiei actuale a păsărilor răpitoare de zi, Ordinul Falconiformes, din judeţul Argeş (perioada 1967 - 1973)** (Contributions to the Knowledge of the Current Situation of Diurnal Birds of Prey, Order Falconiformes, in the Argeş County (period 1967 - 1973)), Mircea Mătieş offered a panoramic view of the situation of falconiform species in the Argeş County. Ten species were recorded in the middle basin area of the Argeş River: *Milvus migrans* (Boddaert, 1783), *Accipiter gentilis* (Linnaeus, 1758), *Accipiter brevipes* (Severtzov, 1850), *Accipiter nisus* (Linnaeus, 1758), *Buteo lagopus* (Pontoppidan, 1763), *Buteo buteo*, *Circus cyaneus* (Linnaeus, 1766), *Falco subbuteo* Linnaeus, 1758, *Falco vespertinus* Linnaeus, 1766 and *Falco tinnunculus* Linnaeus, 1758. The conclusion was that

the more pronounced anthropic density in the plain and hill areas, compared with that of the mountain regions, had caused a retreat of the brooding falconiform species toward upstream areas (Mătieş, 1974).

Mătieş and Munteanu approached the topic of the migration of the Woodcock in **Sitarul - migraţie, vînătoare, ocrotire** (The Woodcock - Migration, Hunting and Conservation Measures) in 1976 and resumed it later with new data in Travaux. Thus, it was pointed out that the spring passage for this species started in the south in the first half-decade of March and in the hill regions between March 5 and March 10 with a 9 to 12 days difference between the southern and western plains, on the one hand and the northern regions of the country on the other (Mătieş & Munteanu, 1976).

An interesting article was written by the ornithologist Aurel Papadopol and published in the journal Travaux (Papadopol, 1979), **Contribution à la connaissance de l'avifaune des départements d'Argeş et de Dâmboviţa (Roumanie)** (Contributions to the Knowledge of the Avifauna of the Argeş and Dâmboviţa Counties (Romania)).

Dimitrie Radu identified the Cirl Bunting (*Emberiza cirlus*) Linnaeus, 1766 brooding in the Argeş River Valley, in the upstream region of the Vidraru Reservoir, on July 2, 1972 (Radu, 1972).

Mircea Mătieş and Dan Munteanu published in Travaux the article **La dynamique saisonnière de la bécasse des bois (*Scolopax rusticola*) en Roumanie** (The Seasonal Dynamics of the Eurasian Woodcock (*Scolopax rusticola*) in Romania). The result of a very thorough documentation, this article discuss again the topic of annual and multiannual seasonal dynamics of the Woodcock (*Scolopax rusticola*) Linnaeus, 1758 in Romania, based on an article published by the authors in 1976 (Mătieş & Munteanu, 1979).

Mircea Mătieş in collaboration with Victor Ciochia (Mătieş & Ciochia, 1980)**,** in the article **Primele date asupra cuibăritului sfrânciocului mare (*Lanius excubitor* L.) în Oltenia şi Muntenia** (The First Data on the Brooding of the Great Grey Shrike (*Lanius excubitor* L.) in Oltenia and Muntenia), presented the results of their research on the distribution of the Great Grey Shrike south of the Middle Carpathians. We can also find a few references to localities from the Argeş River Basin: Merişani (Brătеasca village), Merişani (Vâlcele village), Băiculeşti and Curtea de Argeş. It is considered that they referred to *L. e. excubitor*.

In 1983, in **Modificări induse de lacurile de acumulare în structura şi dinamica avifaunei** (Changes Induced by Reservoirs in the Structure and Dynamics of the Avifauna), Munteanu and Mătieş synthesised the changes found in the structure and dynamics of the avifauna due to the transformations in the Argeş Basin. When considering the avifauna of the reservoirs from the upper and middle basin of the Argeş River (Vidraru, Oeşti, Cerbureni, Curtea de Argeş, Zigoneni, Vâlcele, Budeasa, Bascov, Piteşti and Goleşti), the authors determined 84 aquatic species, some of them with a low ocurrence in the mountain and hill regions of our country – *Gavia stellata*, *Phalacrocorax pygmeus* (Pallas, 1773),

Platalea leucorodia Linnaeus, 1758, *Plegadis falcinellus* Linnaeus, 1766, *Tadorna ferruginea* (Pallas, 1764), *Netta rufina* (Pallas, 1773), *Haematopus ostralegus* Linnaeus, 1758, *Pluvialis squatarola* (Linnaeus, 1758) etc. It was mentioned that the eutrophication of the new dam lakes on the Olt River had attracted a part of the aquatic avifauna, and subsequently, the number of birds living on the lakes in the Argeş County had declined (Munteanu & Mătieş, 1983).

Les routes de migration des oiseaux en Roumanie (The Migration Routes of Birds in Romania) by Mircea Mătieş appeared in 1986 (Mătieş, 1986). In this work, the author specified the routes of migration through our country for 37 bird species. Among these, there were some that passed through the area of the Argeş River Basin. It was noted that *Larus ridibundus* Linnaeus, 1766, *Egretta garzetta* (Linnaeus, 1766) and *Egretta alba* (Linnaeus, 1758) flew over the Carpathians, following the reservoirs and *Ciconia nigra* (Linnaeus, 1758) followed the same routes as *Ciconia ciconia,* but preferred the company of some raptor species such as *Milvus migrans* and *Buteo buteo*.

Victor Ciochia presented in his work **Păsările clocitoare din România** (Brooding Birds of Romania) a series of maps in UTM grid, marking the bird brooding areas in Romania (Cichia, 1992).

Mitică Georgescu and George Cistian Georgescu, in **Enciclopedie zoocinegetică** (Zoo-cynegetic Encyclopedia), offered a series of regional bird names: „cioară pucioasă" for the Roller (*Coracias garrulus*) Linnaeus, 1758, „papagal ţigănesc" for the Jackdaw (*Corvus monedula*) Linnaeus, 1758 or „pescar" for the Heron (*Ardea cinerea*) Linnaeus, 1758, all of them common in the Argeş region (Georgescu & Georgescu, 1996).

Atlasul păsărilor clocitoare din România (The Atlas of the Brooding Birds of Romania) appeared in 2002, coordinated by Dan Munteanu, Aurel Papadopol and Peter Weber was his collaborators. It is a comprehensive work of synthesis which comprises the brooding areas of the bird species of our country and implicitly of the Argeş River Basin. These are represented using the 50x50 km UTM grid (Munteanu et al., 2002).

In **Cartea Roşie a Vertebratelor din România** (The Red Book of the Vertebrates of Romania) (Munteanu, 2005), 30 endangered species living in the vicinity of the middle basin of the Argeş River were mentioned.

After 1999, many of our articles (Radu Gava, Adrian Mestecăneanu, Denisa Conete) completed the previous research studies concerning the ornithofauna of the reservoirs created on the Argeş River.

Since 2002 we have conducted detailed research on the ornithofauna of the middle basin of the Argeş River (on the Vâlcele, Budeasa, Bascov, Piteşti and Goleşti lakes). The synthesis of the research we performed until 2011 was the theme of my doctoral thesis. A representative part of these results has been made public in a large number of articles (analytic ornithologic studies) that have been published since 2003.

Taking into account the fact that the reservoirs created on the Argeş River are, first of all, important wintering sites for the aquatic birds in the area, being

included in the site „ROSPA0062 Reservoirs on the Argeş River" - as an Avifaunistic Special Protection Area (SPA) and considered an integral part of the European ecological network Nature 2000 in Romania, it is absolutely necessary to ensure the optimum protection of the biodiversity of the area and the conservation of the endangered, vulnerable or rare bird species through continuous monitoring of the pressure factors and, implicitly, through adopting some efficient and concrete measures for the preservation of birds and of their habitats. The lack of a continuous monitoring program of the avifauna in the area makes the quantification of the changes impossible.

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