Research on the Flora, Habitats and Avifauna of the Running Waters from the Danube Hydrographic Basin (Northern Dobrogea)

Cercetări privind flora, habittele și avifauna râurilor din bazinul hidrografic Dunărea (Dobrogea de Nord)

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Abstract

The running waters which belong to the Danube Hydrographic Basin, in the north-west-western part of Dobrogea (Luncavița, Jijila, Greci, Cerna, Peceneaga, Valea Roștilor and Topolog), similarly to those in the Black Sea Hydrographic Basin, have an important conservation value, as they contain habitats of community importance, even with a reduced number of threatened plants, also habitat types important for nesting and feeding during the migration periods for many protected bird species. Within the studied rivers there were identified: six habitats of community importance (1530, 3270, 91M0, 91Y0, 92A0, 92D0) divided into nine subtypes (15.A211, 15.A21275, 24.52, 41.76831, 41.76833, 41.2C2, 41.2C22, 44.1621, 44.814112) and eight habitat subtypes with no community importance (31.872, 37.24, 37.2422, 37.2424, 53.1111, 53.132, 53.143, 53.4).*

The highest habitat diversity was observed within Cerna and Peceneaga rivers (nine plant communities), followed by Topolog River (eight plant communities) and Valea Roşţilor River (six plant communities), the lowest number of habitats/coenotaxa being recorded within Luncaviţa (four plant communities) and Jijila rivers (four plant communities).

Regarding the avifauna, along the seven studied rivers, the highest number of bird species was identified along the Topolog River, in the discharge area, respectively 166 species, the smallest number of bird species being identified on along the Cerna River, 26 species of birds, followed by the Greci River with 31 species. From the point of view of the classification of bird species characteristic for the major habitat types along the studied rivers, it can be seen that the bird species typical for terrestrial habitats predominate, followed by aquatic and amphibious ones.

Keywords: *flora, habitats, avifauna, running waters, Danube Hydrographic Basin*

Introduction

Within the present work there are presented aspects regarding the flora, vegetation, habitats and avifauna studied within the seven rivers that belong to

the Danube Hydrographic Basin (in Dobrogea region), mainly situated in Tulcea County, respectively: Luncavița, Jijila, Greci, Cerna, Peceneaga, Valea Roștilor and Topolog. The research, whose results are presented in this study, was carried out within the research theme *Research on the biodiversity of lotic ecosystems from Northern Dobrogea*, supplementing the data and information presented in a previous study (PETRESCU *et alii*, 2020) about the rivers systems from Northern Dobrogea. These hydrographic areas/aquatic ecosystems are of interest for supplementing the data summarized in the previous topics on habitats and species of Community/national interest in Natura 2000 sites, located near or including these aquatic ecosystems.

In this case, the water courses cross, or are close to the protected areas of national importance and/ or Natura 2000 sites, such as: Măcin Mountains National Park, ROSCI012 Munţii Măcinului, ROSCI0012 Braţul Măcin, ROSCI0201 Podişul Nord Dobrogean, ROSPA0040 Dunărea Veche-Brațul Măcin, ROSPA0073 Măcin-Niculiţel, ROSPA0091 Pădurea Babadag, ROSPA0100 Stepa Casimcea and ROSPA0101 Stepa Saraiu-Horia.

The specific objective of this study is the assessment of the species and habitats and their conservation value. In order to elaborate the lists of species and habitats for these seven studied watercourses, it is necessary to assess the specific biodiversity (specific richness) of the respective hydrograpic areas/aquatic ecosystems, providing concrete elements that will be the basis of studies directed later on organism groups.

Short hydrological characterization of the rivers that belong to the Danube Hydrographic Basin

In the northern half of Dobrogea (*Small River System in northwestern Dobrogea*) Danube River Basin includes mostly small river systems, with low average density and short rivers (whose lengths fall between 10-50 km) with low liquid flows (below 1 m^3/s). These drain the western and north slopes of the Dobrogea Plateau (respectively Măcin Mountains and Niculițel Plateau) and the western slopes of the Casimcea Plateau (Figure 1) and flow into the lakes (e.g. Pietrei, Traian, Hazarlâc), water accumulations (Peceneaga) or directly in the Danube River, through Măcin Branch. These rivers (Luncavița, Jijila, Greci, Cerna, Peceneaga, Valea Roștilor and Topolog) have adapted their valleys to the old forms of the dobrogean platform and have a general orientation from northeast to west and southwest, excepting Luncavița River, determined by the relief. They have relatively large slopes (which can exceed 10m/km) and a generally permanent but torrential flow regime (ZAHARIA, PIȘOTA, 2003).

Regarding the supply sources of these watercourses, these are represented by atmospheric precipitations, snow melting and groundwater, the dominant being

the type of surface rain-snow supply (74%), followed by the underground supply (26%). In the middle and upper courses of the Cerna, Greci și Peceneaga (Aiorman) rivers, the share of underground supply increases to 38%, respectively to 49% in the Topolog River, as a result of the water supply that circulates through calcareous voids and cracks (GHADA, 1988 in ZAHARIA, PIȘOTA, 2003).

The surface runoff and the hydrological regime of these rivers are influenced by the uneven distribution of precipitation, both during the year and from one year to another. The average surface runoff is characterized by multiannual average flow that do not exceed 0,2 m/s, except for the Topolog River, with a flow of 0,321 m/s.

The peculiarities of the river flow allow the classification of the waters as the Pontic regime type, a disordered regime, in which a period of "high waters" is individualized, at the end of winter and beginning of spring, with a maximum average flow registered, usually in February. For most of the year, "low waters" are specific, on the background of which, especially during summer and spring, occasional floods occur, with high intensity (ZAHARIA, PIȘOTA, 2003).

The minimum leakage generally occurs in the summer-autumn period, due to low precipitations, high temperatures and intense evapotranspiration, being characterized by small, very low flows, of the order of liters per second. The drying phenomenon (Photo 1) is rare and usually has a random and local character. It occurs only in extremely dry years and on certain sectors of rivers (e.g. spring area) or in their tributaries, like at: Cerna River (spring area, in August 2020, January and May 2021), Greci (spring area, in July 2020, April 2021), Luncavița (spring area, in July 2020), Peceneaga (discharge area and near Dorobanțu village, in May 2021), Valea Roștilor River (spring area, in June 2020).

Photo 1. The drying phenomenon (Luncavița, Peceneaga, Valea Roștilor)
Foto 1. Fenomenul de secare (Luncavița, Peceneaga, Valea Roștilor)

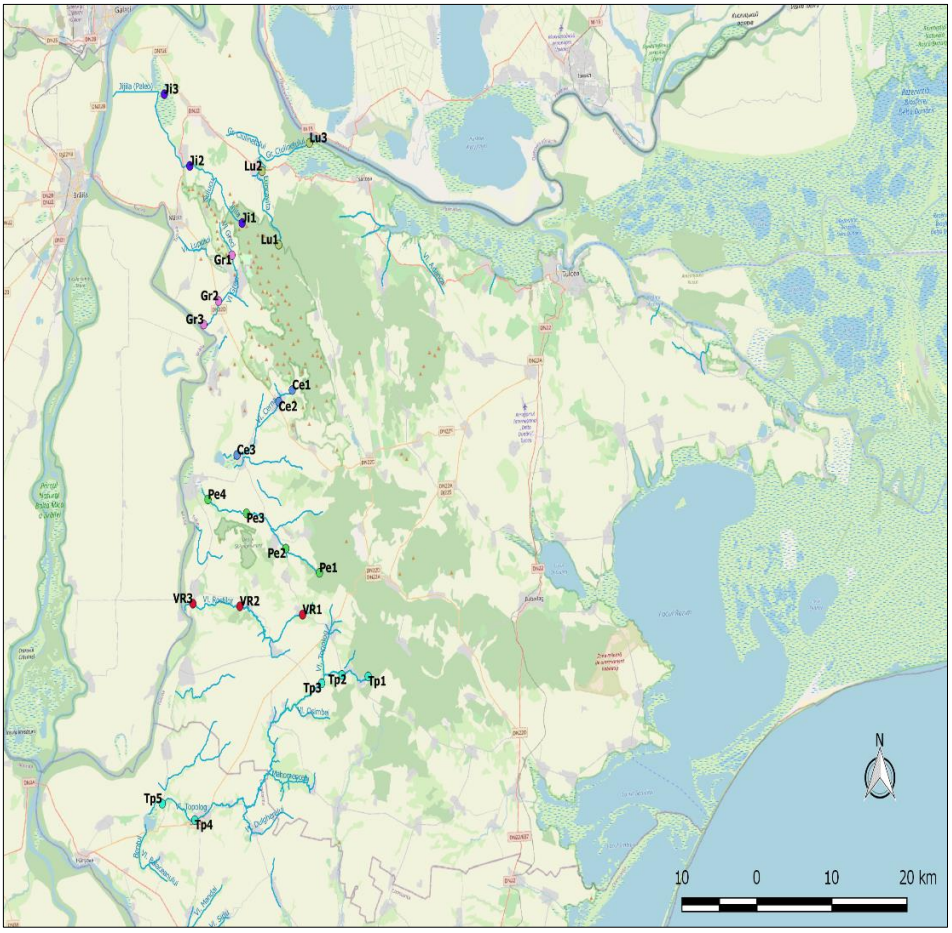

Figure. 1. Map of the running waters that belong to the Danube Basin
Fig. 1. Harta cursurilor de apă ce aparțin Bazinului hidrografic Dunăre

Cerna River (Photo 2) springs from the eastern side of the Șaua Mare Hill (Măcin Mountains), from an altitude of 250 m, near of Cerna Hill, and receives its tributaries Bordei Bratu, Megina (on the right side) and Valea Pârlita (on the left side). It passes through Cerna and Traian villages and flows into the marsh area adjacent to the Traian Lake, downstream of Traian village.

Cerna River crosses or is close to several nature reserves like: Măcin Mountains National Park, Chervant - Priopcea, as well as Natura 2000 sites: ROSCI012 Munții Măcinului, ROSCI0012 Brațul Măcin and ROSPA0040 Dunărea Veche-Brațul Măcin.

Photo 2. Cerna River – middle course and discharge area
Foto 2. Râul Cerna – curs mijlociu și zona de vărsare

Greci River (Photo 3) is also known as Valea Recea, from its springs to the exit from the Greci village (southwest side), and as Valea Calistra, after taking over the waters from the left side of the homonymous valley, and until it flows into the Măcin arm of the Danube. It springs from the eastern slope of Pricopanului Peak (Măcin Mountains) at an altitude of 116 m and has a length of 13 km, an average slope of 8 m/km and drains an area of 73 km^2. The main tributaries of this river are from the left side, springing from the highest peaks of Măcin Mountains (Țuțuiatu and Ghinaltu): Morsu, Carabalu, Racova, Dâtcova.

Greci River crosses or is close to several nature reserves, like Măcin Mountains National Park, as well as Natura 2000 sites: ROSCI012 Munții Măcinului, ROSCI0012 Brațul Măcin and ROSPA0040 Dunărea Veche-Brațul Măcin.

Jijila River (Photo 4) springs from an altitude of 200 m from the Chiţău Forest area, respectively the valley located nothwards of the Căpuşa Peak. It has an average slope of 14 m/km and drains an area of 41 km^2. It has a length of 14 km.

Jijila River crosses or is close to several nature reserves like: Măcin Mountains National Park, as well as Natura 2000 sites: ROSCI012 Munții Măcinului and ROSPA0073 Măcin-Niculițel.

Photo 3. Greci River – middle course and discharge area
Foto 3. Râul Greci – curs mijlociu și zona de vărsare

Photo 4. Jijila River – spring area and middle course
Foto 4. Râul Jijila – zona de izvor și curs mijlociu

Luncavița River (Photo 5). The river system of Luncavița drains an area of 58 km^2. It springs near Chetrosu Peak from Măcin Mountains National Park and covers a route of 10 km until it flows into the Ciulineț channel and than in Pietrei Lake (Ghiol) that is connected to the Danube River. It has an average slope of 9 m/km. Its valley receives as tributaries: Valea Fagilor, Valea Seacă (on the left side, from Măcin Mountains), Valea Glonțului (on the right side, from Niculițel Hills) (ZAHARIA, PIȘOTA, 2003; SGA Tulcea). Luncavița River crosses or is close to several nature reserves like Măcin Mountains National Park, as well as Natura 2000 sites: ROSCI012 Munții Măcinului, ROSCI0201 Podișul Nord-Dobrogean and ROSPA0073 Măcin-Niculițel.

Photo 5. Luncavița River – middle course and spring area
Foto 5. Râul Luncavița – curs mijlociu și zona de izvor

Peceneaga River (Photo 6), also known as Aiorman, springs from an altitude of 269 m, in a tableland that belongs to the Casimcei Plateau, situated between the peaks Parchetului, to the north – west and Ozângele to the west. It covers a route of 19 km, with an average slope of 14 m/km and drains an area of 126 km^2. After leaving the forest area, the river receives the Caprelor Valley tributary from the left side, from Meșteru village, then reaches the plain area, where it receives from the right side the Omârlar tributary – 8 km. After that it runs through the Dorobanţu Depression, between Muchiile Cernei and Ghiunghiurmez Hill, and flows into the Peceneaga Accumulation.

Peceneaga River crosses or is close to several nature reserves like: Valea Ostrovului, Dealul Ghiunghiurmez, Peceneaga, as well as Natura 2000 sites: ROSCI0201 Podișul Nord-Dobrogean and ROSPA0091 Pădurea Babadag.

Photo 6. Peceneaga River – spring and discharge areas
Foto 6 Râul Peceneaga – izvor și zona de vărsare

Topolog River (Photo 7) is the most important river system in this sector. Its watershed extends over 342 km^2 and overlaps the western part of the Casimcea Plateau. It has a length of 50 km, an average slope of 5 m/km and flows into the Hazarlâc Lake after collecting the waters of several tributaries on the left side (Hagiomer – 10 km, Valea Osâmbei – 7 km, Mahomencea – 9 km, Valea Dulgherului, Valea Cișmelelor), which gives the basin a pronounced asymmetry due to the slope of the relief towards the floodplain of the Măcin Branch of the Danube River. The discharge area of the river in Hazarlâc Lake is invaded by reeds and rushes.

Topolog River crosses or is close to several Natura 2000 sites like: ROSCI0201 Podișul Nord-Dobrogean, ROSPA0040 Dunărea Veche-Brațul Măcin, ROSPA0091 Pădurea Babadag, ROSPA0100 Stepa Casimcea and ROSPA 0101 Saraiu-Horea.

Photo 7. Topolog River – spring area and middle course
Foto 7. Râul Topolog – izvor și curs mijlociu

Valea Roștilor River (Photo 8) springs from the southern part of the Făgărașu Nou locality (altitude of 286 m). Near the Măgurele locality it receives the Fântâna Oilor tributary (6 km), on the right side. It has a length of 28 km, with an average slope of 10 m/km and drains an area of 114 km^2.

Valea Roștilor River crosses or is close to Măgurele nature reserve and Natura 2000 sites like: ROSCI0201 Podișul Nord-Dobrogean, ROSCI0012 Brațul Măcin, ROSPA0091 Pădurea Babadag and ROSPA0040 Dunărea Veche-Brațul Măcin.

Photo 8. Valea Roștilor River – middle course and discharge areas
Foto 8. Râul Valea Roștilor – curs mijlociu și zona de vărsare

Materials and Methods

The research from 2018 and 2020-2021 was carried out within three annual campaigns, covering the spring, summer and winter seasons, in the periods of maximum phenological development of the studied groups. The frecquency of the field trips was influenced by the health restrictions imposed by the state of emergency and the state of alert. Study methods included: observations, collecting biological materials and soil samples, determing species, processing and interpreting data. The collection of the species that did not raise identification problems was avoided, only using their photos made in the field.

On each river course, 3-4 (5) stations were established in its most representative sectors, respectively the spring area, the alluvial sector and intermediate points between these extremes, which should reflect the conditions of the entire river. For the delimitation of the hydrogeomorphological units there were take account the follow criteria: morphological, pedological and hydrological, as well as the anthropic impact.

Depending on the field conditions, the sampling was carried out on river sections of 10-50 m. Where the watercourses crossed the localities, the sampling stations were chosen downstream.

The indicators of stations for carrying out observations, the GPS coordinates of their positioning, as well as a brief identification of the stations, are presented in Table 1:

Table 1. The stations for carrying out observations
Tabel 1. Stațiile de efectuare a observațiilor

River	Station indicative/ GPS coordonates				
	Station 1	**Station 2**	**Station 3**	**Station 4**	**Station 5**
Cerna	**Ce1**	**Ce2**	**Ce3**		**-**
	Spring area (*eastern outside of Cerna Village*) 45^0.791340 N 28^0.209952 E 55 m alt.	**Bridge from Cerna village** 445^0.131838 N 28^0.224710 E 40 m alt.	**River discharge area** (*Traian Lake – Traian Village*) 445^0.026301 N 28^0.226920 E 3 m alt.		
Greci	**Gr1**	**Gr2**	**Gr3**	**-**	**-**
	Spring area (*next to the road to the stone quarry from the north of Greci village*) 445^0.20851 N 28^0.22945 E 64 m alt.	**Bridge on DN22** 445^0.16825 N 28^0.20286 E 2 m alt.	**River discharge area** (*Măcin Branch of the Danube River*) 445^0.14817 N 28^0.17631 E 3 m alt.		
Jijila	**Ji1**	**Ji2**	**Ji3**	**-**	**-**
	Spring area (*Chițău Forest, in the Măcin Mountains National Parc)* 445^0.25272 N 28^0.22342 E 105 m alt.	**Downstream of Jijila village** (*confluence river-channel*) 445^0.29135 N 28^0.14985 E 8 m alt.	**River discharge area** (*Danube River*) 445^0.32499 N 28^0.11868 E 2 m alt.		
Luncavița	**Lu1**	**Lu2**	**Lu3**	-	-
	Spring area (*near of Chetrosu Peak, Măcin Mountains National Parc*) 445^0.21727 N 28^0.30772 E 103 m alt.	**Bridge of Cetățuia** (*on the local road Luncavița-Nifon*) 445^0.22730 N 28^0.31056 E 71 m alt.	**River discharge area** (*Ciulineț channel – Ghiolul Pietrei – Danube River*) 445^0.228630 N 28^0.28777 E 4 m alt.		
Peceneaga	**Pe1**	**Pe2**	**Pe3**	**Pe4**	-
	Spring area (*5 km north of Topolog village, on Aiormanulu Valley*) 444^0.90828 N 28^0.38421 E 260 m alt.	**Upstream of Dorobanțu village** 444^0.95515 N 28^0.29507 E 75 m alt.	**Peceneaga village** (*near the Ghiunghiurmez nature reserve*) .	**River discharge area** (*1 km from Peceneaga pond*) 444^0.99702 N 28^0.17626 E 10 m alt.	
Valea Roștilor	**Vr1**	**Vr2**	**Vr3**	-	-
	Spring area (*upstream Luminița village*) 444^o.89082 N 28^o.32924 E 178 m altit.	**Măgurele Village** 444^0.90129 N 28^0.22389 E 46 m alt.	**River discharge area** (*Old Danube-Măcin Branch*) 444^o.90589 N 28^o.14468 E 10 m altit.		
Topolog	**Tp1**	**Tp2**	**Tp3**	**Tp4**	**Tp5**
	Spring area (*in the forest, at 1,5 km upstream of Cerbu village*) 44^o.83302 N 28^o.43659 E 219 m altit.	**Downstream Sâmbăta Nouă village** 44^o.83567 N 28^o.39297 E 185 m altit.	**Upstream Calfa village** 44^o.82942 N 28^o.35790 E 140 m altit.	**Downstream Saraiu village** 44^o.71476 N 28^o.13742 E 21 m altit.	**River discharge area** (*Hazarîîc Lake*) 44^o.73088 N 28^o.08345 E 10 m altit.

The data related to substrate types were obtained by the ”doll” method, wich consists in taking a sample from substrate and modelling a doll. If the result is positive, then the substrate contains a lot of clay, and if it is not possible to model, then the sand is in excess. Depending on how the hands and feet can be shaped or not, it can find out if the dust is excessive. Also, the presence of small foliage was a good indicator for sand. Mica is a mineral in the silicate group with monoclinic crystallization system. To determine the types of soils, the Pedological Map of the Socialist Republic of Romania was used (FLOREA *et alii*, 1970-1971). It was georeferenced in Stereo 70 system, 1995 version, with EPSG code 31700. Update of soil types in the Soil Classification System was based on Romanian Soil Taxonomy System (FLOREA *et alii*, 2012).

Flora, vegetation and habitats. The on-site research consisted in observations on itineraries and inventories generally in 100 square meters plots, according to the Braun-Blanquet method. The identification and framing of the plant species, coenotaxa and habitats are based on PHYSIS database, the EUR 27 version of the *Interpretation Manual of the European Union Habitats* and other papers or field guides (CIOCÂRLAN, 2009; DEVILLIERS, DEVILLIERS-TERSCHUREN, LINDEN, 1996; DIHORU, DONIŢĂ, 1970; DONIŢĂ *et alii* 2005, HOREANU, 1976A; HOREANU, 1976B; IVAN, 1979; OLTEAN *et alii*, 1994; PRODAN, 1934; SANDA, 1998; SANDA, 2002; SANDA, ARCUŞ, 1999; SANDA, VICOL, ŞTEFĂNUŢ, 2008; SĂVULESCU *et alii* 1976; SÂRBU *et alii*, 2013).

The correspondence between the dominance, habitat frequency and the threat categories for species and habitats/coenotaxa

Dominance indices (specii)	Threat category	Habitat frequency in the studied area (% of the route)
– <5 individuals /plot, with negligible dominance	critically endangered	**-**
+ – ≤ 1 % dominance	endangered	**+** – ≤ 1 %
1 – 1-10 % dominance	vulnerable	**I** – 1-10 %
2 – 10-25 % dominance	rare	**II** – 10-25 %
3 – 25-50 % dominance	sporadic	**III** – 25-50 %
4 – 50-75 % dominance	frequent	**IV** – 50-75 %
5 – 75-100 % dominance	very frequent	**V** – 75-100 %

The preliminary assessment of the importance and conservation status of threatened species or habitats/coenotaxa, was made by using a scale, as follows. A correspondence was also set between these categories and the Braun-Blanquet scale for the assessment of the dominance within the plots. For the preliminary evaluation of the habitat threat categories an adapted form of the previous scale was used, based on the estimation of the percentage limits in the research route within which the habitat/ coenotaxa was noticed.

The conservation status was preliminary assessed by threat categories. Thus, the higher threat categories correspond to a lower conservation status, closer to an unfavourable level. Also the higher the number of threatened species, the better the conservation status can be considered. Taking into account if the habitat is a priority one not, combined with its threat category/estimated area the habitat urgency for the intervention with adequate management measures was ranked, in decreasing order in three categories: high priority, priority, secondary priority.

Wherever data allowed also the conservation status of the plant communities/habitats induced by the intensity of human activities was assessed. A simple scale which estimates a high, medium, low or null level of disturbance was used, taking into account the dominance indices and the number of ruderal and/or non-native species identified in the plots located in plant communities, in the studied habitats. Within the species list, for each plant community the ruderal species are underlined, while the non-native ones are mentioned in the description of the respective coenotaxa. There were taken into account only the plant communities strictly adjacent to the rivers that are influenced by the ground water or by the overflowing of these water courses.

Avifauna. Ornithological observations and the inventory of bird species associated with both these rivers and the habitats in their vicinity were usually performed in all four seasons, in the same stations, initially recorded with GPS points. The monitoring period began early in the morning and ended before noon, when the birds were down. For each chosen point, the size and type of species of birds around the pre-established station, those in lonely trees, bushes, buildings, fences. The method of identification of the bird species consisted in: making observations in each station established for the respective watercourse, during 30 minutes, recording in the observation sheet the species and the number of specimens identified by directly viewing or singing. Specimens of birds sitting, moving or flying over the station were recorded. The special determinant by SVENSSON Lars (2010) was used to identifiy the observed species.

For the morphometric data regarding the river systems that belong to the Danube Basin, the Atlas of the Romanian Water Cadastre (1992) was consulted.

Results and Discussions

I. PEDOLOGICAL CONDITIONS

Luncavița River:
Lu1 – spring area: The substrate is loam-sandy, and the station is located in the soil territorial unit Haplic Luvisols, loam-sandy.
Lu2 – bridge of Cetățuia: The substrate is loamy, and the station is located in the soil territorial unit Calcaro-calcic Chernozems, loam-sandy.
Lu3 – river discharge area: The substrate is loam-clay and the station is located in the soil territorial unit Calcaric Fluvisols, loam-clay, loam-sandy.

Jijila River:
Ji1 – spring area: The substrate is sandy-loam to loamy, and the station is located in the soil territorial unit Greyi-luvic Phaeozems, sandy-loam.
Ji2 – downstream of Jijila village: The substrate is loamy, and the station is located in the soil territorial unit Calcaric Regosols, loamy.
Ji3 – river discharge area: The substrate is clay-loamy, and the station is located in the soil territorial unit Calcaric Fluvisols, clay-loamy.

Greci River:
Gr1 – spring area: The substrate in station Gr1 is stony sandy-loamy to loamy, and the station is located in the soil territorial unit Greyi-luvic Phaeozems, sandy-loam.
Gr2 – bridge on DN22: The substrate is stony loam-sandy to loamy, and the station is located in the soil territorial unit Calcaric Fluvisols, loam-sandy.
Gr3 – river discharge area: The substrate is loam-clay, and the station is located in the soil territorial unit Mollic Gleysols, loam-clay and Gleyic Phaeozems, loamy.

Cerna River:
Ce1 – spring area: The substrate is loamy to sandy-loam, and the station is located in the soil territorial unit Calcaro-calcic Chernozems, sandy-loamy.
Ce2 – bridge from Cerna village: The substrate is loam-sandy, and the station is located in the soil territorial unit Calcaro-calcic Chernozems, loam-sandy.
Ce3 – river discharge area: The substrate is loamy to loam-clay, and the station is located in the soil territorial unit Calcaro-calcic Kastanozems, loamy.

Peceneaga River:
Pe1 – spring area: The substrate is loamy to loamy to loam-sandy, and the station is located in the soil territorial unit Calci-greyic Chernozems, loamy to loam-sandy.
Pe2 – upstream of Dorobanțu village: The substrate is loamy, and the station is located in the soil territorial unit Mollic Regosols, loamy.
Pe3 – Peceneaga village: The substrate is loamy to loam-sandy, and the station is located in the soil territorial unit Calcaro-calcic Kastanozems, sandy-loam.
Pe4 – river discharge area: The substrate is loamy to loam-sandy, and the station is located in the soil territorial unit Calcaro-calcic Kastanozems, sand-loamy.

Valea Roștilor River:
Vr1 – spring area: The substrate is stony sand-loamy to loamy, and the station is located in the soil territorial unit Eutric-lithic Leptosols, sand-loamy.
Vr2 – Măgurele village: The substrate is loamy, and the station is located in the soil territorial unit Calcaric Regosols, loamy.
Vr3 – river discharge area: The substrate is loam-clay, and the station is located in the soil territorial unit Calcaric Fluvisols, loam-clay.

Topolog River:
Tp1 – spring area: The substrate is loam-sandy to loamy, and the station is located in the soil territorial unit Grey-luvic Phaeozems, loam-sandy.
Tp2 – downstream Sâmbăta Nouă village: The substrate is stony sand-loamy to loamy, and the station is located in the soil territorial unit Calcic Chernozems, sand-loamy.
Tp3 – upstream Calfa village: The substrate is loamy, and the station is located in the soil territorial unit Mollic Regosols, loamy.
Tp4 – downstream Saraiu village: The substrate is loamy, and the station is located in the soil territorial unit Mollic Regosols, loamy.
Tp3 – river discharge area: The substrate is loam-clay, and the station is located in the soil territorial unit Calcaric Fluvisols, loam-clay.

II. HABITATS AND PLANT COMMUNITIES

II.A. Habitats of community importance

1530* Pannonic salt-steppes and salt-marshes (PAL.CLASS.: 15.A1, 15.A2)

15.A211 Western Pontic saline steppes

***Artemisietum santonici* Soó 1947 corr. Guterm. et Mucina 1993**, with 11 species recorded in the plots, is a vulnerable plant community at the discharge of the Cerna River (Ce3), with a low level of ruderal species occurence (four species) and a restricted dominance.

Key species: *Artemisia santonica* (3; Ce3).

Other species: *Atriplex prostrata* (+; Ce3), *Chenopodium album* (+; Ce3), *Cynodon dactylon* (1; Ce3), *Hordeum geniculatum* (+; Ce3), *Matricaria recutita* (+; Ce3), *Polygonum aviculare* (+; Ce3), *Potentilla reptans* (+; Ce3), *Puccinelia limosa* (+; Ce3), *Trifolium fragiferum* (+; Ce3), *Tamarix ramosissima* (+; Ce3).

15. A21275 Western Pontic *Cynodon* saline beds

***Trifolio fragifero-Cynodontetum* Br.-Bl. et Bolos 1958** is mainly a vulnerable plant community, with situations ranking from vulnerable to frequent. It counts a total number of 53 species, the rivers being presented in the decreasing order of the species richness: Topolog – 47 species (Tp1-5), Peceneaga – 24 species (Pe1, Pe3, Pe4), Valea Roşţilor – 16 species (Vr1, Vr2), Jijila – 14 species (Ji1), Cerna – 10 species (Ce3), Luncaviţa – nine species (Lu3), Greci – four species (Gr1). It can be considered mainly a low disturbed coenotaxon (low for the alien species and low-medium for ruderal taxa.

Cerna River

***Trifolio fragifero-Cynodontetum* Br.-Bl. et Bolos 1958** plant community, counting 10 species, is vulnerable at the discharge area of the Cerna River (Ce3). One non-native species, *Xanthium spinosum,* with a low dominance, indicate a reduced invasive tendency of alien species. Still, the four ruderal taxa, underlined below, indicate a low disturbance.

Key species: *Cynodon dactylon* (2; Ce3), *Trifolium fragiferum* (1; Ce3).

Other species: *Artemisia santonica* (+; Ce3), *Centaurea iberica* (+; Ce3), *Elymus repens* (+; Ce3), *Hordeum geniculatum* (+; Ce3), *Mentha pulegium* (+; Ce3), *Polygonum aviculare* (+; Ce3), *Rorippa sylvestris* (+; Ce3), *Xanthium spinosum* (+; Ce3).

Greci River

***Trifolio fragifero-Cynodontetum* Br.-Bl. et Bolos 1958** plant community, with only four species recorded in the plot, can be considered vulnerable within the upper course of this river (Gr1). One non-native species, *Xanthium spinosum,* with a low dominance, indicate a reduced invasive tendency of alien species. Only one ruderal species was recorded, with a reduced dominance, that indicate a low disturbance.

Key species: *Cynodon dactylon* (5; Gr1).

Other species: *Agrostis stolonifera* (+; Gr1), *Cichorium intybus* (+; Gr1), *Xanthium spinosum* (+; Gr1).

Jijila River

***Trifolio fragifero-Cynodontetum* Br.-Bl. et Bolos 1958** plant community, with 14 species, was recorded as vulnerable at the upper course (Ji1), and at the discharge of the Jijila River (Ji3). The four ruderal taxa indicate a low disturbance.

Key species: *Cynodon dactylon* (2-3; Ji1, Ji3), *Trifolium fragiferum* (+-1; Ji1, Ji3).

Other species: *Agrostis stolonifera* (+; Ji1), *Cichorium intybus* (+; Ji1, Ji3), *Daucus carota* (+; Ji1), *Heracleum sphondylium* (+; Ji1), *Juncus inflexus* (1; Ji1), *Mentha pulegium* (+; Ji3), *Mentha longifolia* (+; Ji1), *Ononis spinosa* (+; Ji3), *Plantago lanceolata* (+; Ji1), *Plantago major* (+; Ji1), *Solanum dulcamara* (+; Ji1), *Verbena officinalis* (+; Ji1).

Luncaviţa River

***Trifolio fragifero-Cynodontetum* Br.-Bl. et Bolos 1958** plant community, counting nine species, can be considered rare at the discharge area (Lu3). The four ruderal species, with a reduced dominance indicate a low disturbance, but at the limit towards a medium level.

Key species: *Cynodon dactylon* (4; Lu3).

Other species: *Agrostis stolonifera* (+; Lu3), *Artemisia absinthium* (+; Lu3), *Bidens tripartita* (+; Lu3), *Cichorium intybus* (+; Lu3), *Galium palustre* (+; Lu3), *Phragmites australis* (+; Lu3), *Urtica dioica* (+; Lu3), *Xanthium italicum* (1; Lu3).

Peceneaga River

***Trifolio fragifero-Cynodontetum* Br.-Bl. et Bolos 1958** plant community, counting 24 species, can be considered vulnerable within the upper course of this river (Pe1) and in its middle course (Pe3) respectively sporadic at the discharge area (Pe4). The eleven ruderal species, with a significant dominance (+; 1) indicate a medium disturbance.

Key species: *Cynodon dactylon* (2-3-4; Pe1, Pe3, Pe4).

Other species: *Agrostis stolonifera* (+; Pe4), *Ballota nigra* (+; Pe3), *Bidens tripartita* (+; Pe1), *Cichorium intybus* (+; Pe1, Pe3), *Convolvulus arvensis* (+; Pe3), *Daucus carota* (+; Pe3), *Elymus repens* (+; Pe3), *Hordeum murinum* (+; Pe3), *Kohlrauschia prolifera* (+; Pe3), *Lolium perenne* (1; Pe1), *Lycopus europaeus* (1; Pe1), *Mentha pulegium* (+; Pe1), *Onopordum tauricum* (+; Pe3), *Plantago major* (+; Pe1, Pe3), *Phragmites australis* (+; Pe3), *Potentilla reptans* (+; Pe1), *Rorripa sylvestris* (+; Pe4), *Sparganium erectum* (+; Pe4), *Stellaria media* (+; Pe3), *Urtica dioica* (+; Pe3), *Verbena officinalis* (+; Pe1), *Xanthium italicum* (+; Pe1), *Xeranthemum annuum* (+; Pe3).

Topolog River

***Trifolio fragifero-Cynodontetum* Br.-Bl. et Bolos 1958** plant community, counting 47 species, can be considered vulnerable within the upper course, upstream of Cerbu (Tp1) and downstream of Sâmbăta Nouă (Tp2) and middle course of this river (Tp4), at Saraiu, except Calfa (Tp3) where it is frequent, while it is rare at the discharge area (Tp5). Three non-native species, *Amaranthus retroflexus*, *Ambrosia artemisiifolia*, *Morus alba* and *Xanthium spinosum,* with a low dominance, indicate a reduced (but towards a medium level) invasive tendency of alien species. The 18 ruderal species, with a significant variation of the dominance (+-1) indicate a medium disturbance.

Key species: *Cynodon dactylon* (2-3; Tp2, Tp3, Tp4, Tp5), *Trifolium fragiferum* (1; Tp1, Tp2, Tp4, Tp4).

Other species: *Achillea setacea* (+; Tp2), *Agrostis stolonifera* (+-1; Tp1, Tp4, Tp5), *Amaranthus retroflexus* (+; Ta3), *Ambrosia artemisiifolia* (+; Tp4), *Arctium lappa* (+; Tp4), *Berula erecta* (+; Tp3), *Bidens tripartita* (+; Tp1), *Bromus squarrosus* (+;Tp2), Tp5), *Capsella bursa-pastoris* (+; Tp5), *Centaurea calcitrapa* (+; Tp5), *Chenopodium album* (+; Tp1), *Cichorium intybus* (+; Tp1), *Convolvulus arvensis* (+; Tp2, Tp4), *Echinochloa crus-galli* (+; Tp1), *Elymus repens* (+; Tp4), *Digitaria sanguinalis* (+; Tp1), *Heracleum sphondylium* (+; Tp2), *Hordeum geniculatum* (+; Tp5), *Hordeum murinum* (+; Tp2), *Juncus gerardii* (+; Tp4), *Lolium perenne* (+-1; Tp1, Tp2, Tp5), *Lycopus europaeus* (+; Tp4), *Mentha longifolia* (+; Tp4, Tp3), *Morus alba* (+; Tp4), *Myosoton aquaticum* (+; Tp4), *Ononis spinosa* (+; Tp4), *Onopordum tauricum* (+; Tp2), *Phragmites australis* (+; Tp4), *Plantago major* (+; Tp1, Tp4), Tp5), *Polygonum aviculare* (+; Tp1), *Polygonum persicaria* (+; Tp1, Tp4), *Potentilla reptans* (+; Ta3), *Rorripa sylvestris* (+; Tp1, Tp4), *Ranunculus sceleratus* (+; Tp1, Tp2, Tp4, Tp3, Tp5), *Rumex palustris* (+; Ta4, Tp3), *Sambucus nigra* (+; Tp4), *Setaria pumila* (+; Tp1), *Sisymbrium orientale* (+; Tp2), *Solanum nigrum* (+; Tp1), *Stellaria media* (+; Tp5), *Trifolium campestre* (+; Tp2), *Urtica dioica* (+; Tp2), *Verbena officinalis* (+; Tp1), *Xanthium italicum* (+; Tp1, Tp4, Tp3), *Xanthium spinosum* (+; Tp4, Tp5).

Valea Roştilor River (Photo 9)

***Trifolio fragifero-Cynodontetum* Br.-Bl. et Bolos 1958** plant community, with a number of 16 species, was recorded as vulnerable at the upper course of the river (Vr1), being sporadic in its middle course (Vr2). One non-native species, *Amaranthus retroflexus,* with a low dominance, indicate a reduced invasive tendency of alien species. Still, the four ruderal taxa, underlined below, indicate a low disturbance.

Key species: *Cynodon dactylon* (4; Vr1, Vr2), *Trifolium fragiferum* (+; Vr2).

Other species: *Agrostis stolonifera* (+; Vr1), *Amaranthus retroflexus* (+;

Vr2), *Echinochloa crus-galli* (1; Vr2), *Fragaria viridis* (+; Vr1), *Lycopus europaeus* (+; Vr2), *Mentha longifolia* (+; Vr1), *Onopordum acanthium* (+; Vr1), *Polygonum aviculare* (+; Vr2), *Polygonum mite* (+; Vr2), *Potentilla reptans* (+; Vr1), *Rumex palustris* (+; Vr1), *Urtica dioica* (+; Vr1), *Verbena officinalis* (+; Vr2), *Xanthium italicum* (+; Vr2).

Photo 9. Valea Roștilor River. 1530* Pannonic salt-steppes and salt-marshes
Foto 9. Râul Valea Roștilor. 1530 Pajiști și mlaștini sărăturate panonice*

3270 Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* p.p. vegetation (PAL.CLASS.: 24.52)

24.52 Euro-Siberian annual river mud communities

The habitat includes three plant communities, respectively ***Xanthietum italicii*** Timár 1950, ***Echinochloo-Polygonetum lapathifolii*** Soó et Csürős 1947**,** ***Polygono lapathifolio-Bidetetum tripartiti*** Klika 1935, being considered mainly endangered, and less vulnerable, with a total number of 28 species, the richest in species being the Topolog River – 18 species (Tp3), followed by Valea Roşţilor – 13 species (Vr2, Vr3), Cerna – six species (Ce1) and Jijila River – five species (Ji2). Being mainly dominated by ruderal species, it can be considered as a highly disturbed coenotaxon, even if the alien species like *Ambrosia artemisiifolia, Amorpha fruticosa, Conyza canadensis* have a low level of invasive trend.

Valea Roştilor River (Photo 10)

***Xanthietum italicii* Timár 1950**, counting 13 species, was observed so far adjacent to the Valea Roştilor River, at its inflow (Vr3), as vulnerable, as well as in its middle course (Vr2), as an endangered plant community. It can be

considered as highly disturbed, due to the dominant ruderal *Xanthium italicum,* along with three other ruderal taxa. The alien *Ambrosia artemisiifolia, Amorpha fruticosa, Conyza canadensis* and *Sicyos angulatus* show a medium level of invasive tendencies, as the last taxon has a significant dominance.

Key species: *Xanthium italicum* (2-3; Vr2; Vr3).

Other species: *Agrostis stolonifera* (1; Vr2), *Ambrosia artemisiifolia* (+; Vr2), *Amorpha fruticosa* (+; Vr3), *Artemisia vulgaris* (+; Vr2), *Sicyos angulatus* (1; Vr3), *Conyza canadensis* (+; Vr2), *Cynodon dactylon* (+; Vr2), *Echinochloa crus-galli* (+; Vr2), *Lycopus europaeus* (+; Vr2), *Polygonum hydropiper* (+; Vr3), *Salix alba* (+; Vr3), *Urtica dioica* (+; Vr2).

Photo 10. Valea Roștilor River. 3270 Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* p.p. vegetation

Foto 10. Râul Valea Roștilor. 3270 Râuri cu maluri nămoloase cu vegetație de Chenopodion rubri p.p. și Bidention p.p.

Topolog River

***Xanthietum italicii* Timár 1950**, with 18 species, was observed so far within the middle course of the Topolog River, at Calfa (Tp3), where it can be considered endangered. It can be assessed as highly disturbed, due to the dominant ruderal *Xanthium italicum,* along with another three ruderal taxa, and the alien *Ambrosia artemisiifolia* and *Conyza canadensis*, with a low coverage.

Key species: *Xanthium italicum* (2; Tp3).

Other species: *Agrostis stolonifera* (1; Tp3), *Ambrosia artemisiifolia* (+; Tp3), *Berula erecta* (+; Tp3), *Conyza canadensis* (+; Tp3), *Cynodon dactylon* (1; Tp3), *Echinochloa crus-galli* (+; Tp3), *Lolium perenne* (+; Tp3), *Lycopus europaeus* (+; Tp3), *Lythrum salicaria* (+; Tp3), *Mentha aquatica* (+; Tp3), *Mentha longifolia* (1; Tp3), *Ononis spinosa* (+; Tp3), *Plantago major* (+; Tp3), *Rumex palustris* (+; Tp3), *Setaria pumila* (+; Tp3), *Tussilago farfara* (+; Tp3), *Urtica dioica* (+; Tp3).

Jijila River

***Echinochloo-Polygonetum lapathifolii* Soó et Csürős 1947** with a total number of five species recorded in the plots, is an endangered plant community within the middle course of the Jijila River (Ji2). A low degree of alien species invasion can be observed, indicated by the presence of *Ambrosia artemisiifolia,* while a high disturbance can be observed due to the dominant *Echinochloa crus-galli,* considered ruderal, along with another such species.

Key species: *Echinochloa crus-galli* (2; Ji2).

Other species: *Ambrosia artemisiifolia* (+; Ji2)*, Bolboschoenus maritimus* (+; Ji2), *Lolium perenne* (+; Ji2), *Phragmites australis* (1; Ji2).

Cerna River

***Polygono lapathifolio-Bidetetum tripartiti* Klika 1935**, with six species, was observed so far adjacent to the Cerna River, in its upper course (Ce1), as vulnerable. It can be considered as low disturbed, due to the ruderal *Urtica dioica.*

Key species: *Bidens tripartita* (2; Ce1).

Other species: *Abutilon theophrasti* (+; Ce1), *Lythrum salicaria* (+; Ce1), *Ranunculus sceleratus* (+; Ce1), *Rumex palustris* (+; Ce1), *Urtica dioica* (+; Ce1).

91M0 Pannonian-Balkanic turkey oak-sessile oak forests

(PAL.CLASS.: 41.76)

41.76831 Dobrogean paeonia sessile oak forests

Peceneaga River (Photo 11)

***Fraxino orni-Quercetum dalechampii* Doniţă 1970**, with nine species, is a rare plant community identified in the upper course of the Peceneaga River (Pe1), where it can be considered as low disturbed, as only one ruderal species was noticed.

Key species: *Fraxinus ornus* (2; Pe1), *Quercus dalechampii* (1; Pe1).

Other species:

- trees: *Acer campestre* (+; Pe1), *Carpinus orientalis* (1; Pe1), *Clematis vitalba* (+; Pe1), *Salix alba* (1; Pe1);

- shrubs/ lianas: *Evonymus verrucosus* (+; Pe1);
- grasses/ undershrubs: *Aegopodium podagraria* (+; Pe1), *Urtica dioica* (+; Pe1).

Photo 11. Peceneaga River. 41.76831 Dobrogean paeonia sessile oak forests
Foto 11. Râul Peceneaga. 41.76831 Păduri de gorun cu Paeonia peregrina din Dobrogea

41.76833 Dobrogean *Quercus pedunculiflora*-lime-oriental hornbeam forests

Topolog River (Photo 12)

***Querco pedunculiflorae-Tilietum tomentosae* Doniţă 1970**, that counts 18 species, was identified as vulnerable in the upper course of the river (Tp1). Two ruderal taxa with a reduced dominance indicate a low disturbance.

Key species: *Quercus pedunculiflora* (2; Tp1), *Tilia tomentosa* (1; Tp1).
Threatened species: *Mercurialis ovata* (+; Tp1).
Other species:

- trees: *Acer campestre* (+; Tp1), *Carpinus orientalis* (2; Tp1), *Cerasus avium* (+; Tp1), *Fraxinus ornus* (1; Tp1), *Sorbus torminalis* (+; Tp1);
- shrubs/ lianas: *Cornus mas* (+; Tp1), *Evonymus verrucosus* (+; Tp1), *Hedera helix* (+; Tp1), *Ligustrum vulgare* (+; Tp1);

- grasses/ undershrubs: *Asplenium trichomanes* (+; Tp1), *Chelidonium majus* (+; Tp1), *Cystopteris fragilis* (+;Tp1), *Geranium robertianum* (+; Tp1), *Polygonatum latifolium* (+; Tp1), *Urtica dioica* (+; Tp1).

Photo 12. Topolog River. 41.76833 Dobrogean *Quercus pedunculiflora*-lime-oriental hornbeam forests
Foto 12. Râul Topolog. 41.76833 Păduri de stejar brumăriu, tei, cărpiniţă din Dobrogea

91Y0 Dacian oak-hornbeam forests (PAL.CLASS.: 41.2C)
41.2C South-eastern European oak-hornbeam forests
41.2C2 Moldo-Muntenian oak-lime-hornbeam forests

Topolog River (Photo 13)

***Carpino betuli-Quercetum robori-pedunculiflorae* Doniţă & Popescu ass. nova prov. h.l**., with 14 species, is a vulnerable plant community identified in the upper course of the Topolog River (Tp1). The phytocoenosis can be considered close to its natural status, as no ruderal/ alien species was recorded and the canopy is not derived.

Key species: *Carpinus betulus* (2; Tp1), *Quercus pedunculiflora* (2; Tp1).

Other species:

- trees: *Acer campestre* (+; Tp1), *Fraxinus excelsior* (+; Tp1), *Sambucus nigra* (+; Tp1);
- shrubs/ lianas: *Berberis vulgaris* (+; Tp1), *Cornus mas* (+; Tp1), *Crataegus monogyna* (1; Tp1);

- grasses/ undershrubs: *Anthriscus sylvestris* (+; Tp1), *Geum urbanum* (+; Tp1), *Glechoma hirsuta* (+; Tp1), *Lysimachia nummularia* (+; Tp1), *Viola odorata* (+; Tp1), *Viola suavis* (+; Tp1).

Photo 13. Topolog River. 41.2C2 Moldo-Muntenian oak-lime-hornbeam forests
Foto 13. Râul Topolog. 41.2C2 Păduri de stejar-tei-carpen din Moldova şi Muntenia

41.2C22 Moldo-Muntenian sessile oak-hornbeam forests

The habitat subtype can be considered sporadic to frequent, with a total number of 46 species recorded in the plots, the richest in species being the Luncaviţa River – 29 (Lu1, Lu2), followed by Topolog River – 21 species (Tp1) and Peceneaga River – 15 species (Pe1). Two rare threatened species occur in the plots, where they are considered endangered. It is a coenotaxon mainly low disturbed or in its natural status, only sometimes highly disturbed, were no alien species were recorded.

Luncaviţa River (Photo 14)

***Tilio tomentosae-Carpinetum betuli* Doniţă 1968** is a frequent plant community in the middle course of the Luncaviţa River (Lu2), near Cetăţuia, as well as within the upper course, upstream of Valea Fagilor (Lu1), where 29 species were registered. Even though only three ruderal/ alien species were identified, the absence of oak species indicates a high disturbance.

Key species: *Carpinus betulus* (1-3; Lu1, Lu2), *Tilia tomentosa* (1-2; Lu1, Lu2).

Other species:

- trees: *Acer campestre* (+; Lu1), *Acer platanoides* (+; Lu1), *Fraxinus excelsior* (1; Lu2), *Salix alba* (1; Lu2), *Ulmus glabra* (+; Lu2);
- shrubs/ lianas: *Cornus sanguinea* (+; Lu2), *Corylus avellana* (+; Lu2), *Hedera helix* (+; Lu2), *Rubus caesius* (+; Lu2), *Viscum album* (+; Lu2);
- grasses/ undershrubs: *Aegopodium podagraria* (+; Lu1, Lu2), *Alliaria petiolata* (+; Lu1), *Anthriscus sylvestris* (+; Lu1, Lu2), *Arum orientale* (+; Lu2), *Asarum europaeum* (+; Lu1), *Brachypodium sylvaticum* (+; Lu1), *Carex pilosa* (+; Lu2), *Dactylis polygama* (+; Lu1), *Dryopteris filix-mas* (+; Lu1), *Galium odoratum* (+; Lu1, Lu2), *Lamium purpureum* (+; Lu1, Lu2), *Mercurialis perennis* (+; Lu1, Lu2), *Mycelis muralis* (+; Lu2), *Potentilla micrantha* (+; Lu1), *Urtica dioica* (+; Lu2), *Veronica hederifolia* (+; Lu2), *Viola odorata* (+; Lu1).

Photo 14. Luncavița River. 41.2C22 Moldo-Muntenian sessile oak-hornbeam forests
Foto 14. Râul Luncavița. 41.2C22 Păduri de gorun cu carpen din Moldova şi Muntenia

Peceneaga River

***Tilio tomentosae-Carpinetum betuli* Doniţă 1968**, with 15 species observed in the plots, is a sporadic plant community in the upper course of the river (Pe1). One rare threatened species was recorded as endangered in the plots. The phytocoenosis can be considered close to its natural status, as no ruderal/ alien species was recorded and the canopy is not derived.

Key species: *Carpinus betulus* (1; Pe1), *Quercus dalechampii* (2; Pe1), *Tilia tomentosa* (2; Pe1).

Threatened species: *Mercurialis ovata* (+; Pe1).

Other species:

- trees: *Fraxinus ornus* (+; Pe1), *Sorbus torminalis* (+; Pe1);
- shrubs/lianas: *Cornus mas* (+; Pe1), *Evonymus verrucosus* (+; Pe1), *Hedera helix* (+; Pe1), *Viburnum lantana* (+; Pe1);
- grasses/undershrubs: *Geum urbanum* (+; Pe1), *Lithospermum purpurocaeruleum* (+; Pe1), *Melica uniflora* (+; Pe1), *Polygonatum latifolium* (+; Pe1), *Scutellaria altissima* (+; Pe1).

Topolog River

***Tilio tomentosae-Carpinetum betuli* Doniţă 1968**, with 21 species observed in the plots, is a sporadic plant community in the upper course of the river (Tp1). The phytocoenosis can be considered low disturbed, close to its natural status, as only one ruderal species was recorded and the canopy is not derived. One threatened species, endangered in the plots, enhance the conservation value of this coenotaxon.

Key species: *Carpinus betulus* (2; Tp1), *Quercus dalechampii* (2; Tp1), *Tilia tomentosa* (1; Tp1).

Threatened species: *Nectaroscordum siculum* subsp. *bulgaricum* (+; Tp1).

Other species:

- trees: *Acer tataricum* (1; Tp1), *Acer campestre* (+; Tp1);
- shrubs/lianas: *Evonymus verrucosus* (+; Tp1), *Ligustrum vulgare* (+; Tp1);
- grasses/undershrubs: *Adoxa moschatellina* (+; Tp1), *Dactylis polygama* (+; Tp1), *Dentaria bulbifera* (+; Tp1), *Geum urbanum* (+; Tp1), *Poa nemoralis* (+; Tp1), *Polygonatum latifolium* (+; Tp1), *Ranunculus ficaria* (+; Tp1), *Rubus caesius* (+; Tp1), *Rumex palustris* (+; Tp1), *Stellaria media* (+; Tp1), *Urtica dioica* (+; Tp1), *Viola odorata* (+; Tp1), *Viola suavis* (+; Tp1).

92 A0 *Salix alba* and *Populus alba* galleries (PAL.CLASS.: 44.141, 44.162 and 44.6)

44.162 Pontic willow galleries

44.1621 Lower Danube willow galleries

This habitat subtype/ plant community, counting 10 species, was observed as endangered and rare. In most of the phytocoenoses a low level of disturbance was noticed, mainly due to the ruderal species and less to the non-native ones, except within Valea Roştilor River, where a high level of disturbance was recorded due to the high values of the coverage of *Sicyos angulatus*. Valea Roştilor River, with nine taxa (Vr3), is richer in species than Cerna River, with four taxa (Ce1).

Cerna River

***Salicetum albae* Issler 1924 s.l.**, that counts four species only in the analysed plot, is an endangered plant community within the upper course of this river (Ce1). Only a ruderal taxon was noticed, with a reduced dominance that shows a low disturbance from this point of view.

Key species: *Salix alba* (4; Ce1).

Other species:

- grasses/undershrubs: *Agrostis stolonifera* (+; Ce1), *Elymus repens* (+; Ce1), *Phragmites australis* (1; Ce1).

Valea Roştilor River (Photo 15)

***Salicetum albae* Issler 1924 s.l.**, with nine species, is considered a rare plant community at the discharge of this river (VR3). There can be estimated a high level of non-native plant invasive tendencies (*Amorpha fruticosa*, *Fraxinus americana, Sicyos angulatus).* Two ruderal taxa recorded with a reduced dominance, indicate a low disturbance from this point of view.

Key species: *Amorpha fruticosa* (+; VR3), *Salix alba* (4-5; VR3).

Other species:

- trees: *Fraxinus americana* (+; VR3).

- grasses/undershrubs: *Sicyos angulatus* (1-2; VR3), *Bidens tripartita* (+-2; VR3), *Echinochloa crus-galli* (+; VR3), *Phragmites australis* (+; VR3), *Polygonum amphibium* (+; VR3), *Xanthium italicum* (+; VR3).

Photo 15. Valea Roștilor River. 44.1621 Lower Danube willow galleries

Foto 15. Râul Valea Roștilor. 44.1621 Păduri ripariene de salcie de la Dunărea de Jos

92D0 Southern riparian galleries and thickets (*Nerio-Tamaricetea* and *Securinegion tinctoriae*) (PAL.CLASS.: 44.81 to 44.84)

44.81 Oleander, chaste tree and tamarisk galleries

44.814112 Danube small reed fresh water tamarix stands

Cerna River (Photo 16)

***Calamagrostio-Tamaricetum ramosissimae* Simon et Dihoru (1962) 1963**, with 12 species was inventoried as vulnerable, at the inflow of Cerna River into the Traian Lake (Ce3). A low disturbance due to only one ruderal taxa can be noticed. There is only one rare threatened species that was identified in this phytocoenosis, where it can be considered endangered.

Key species: *Tamarix ramosissima* (3; Ce3).

Threatened species: *Polypogon monspeliensis* (+; Ce3).

Other species:

- grasses/undershrubs: *Agrostis stolonifera* (1; Ce3), *Artemisia santonica* (+; Ce3), *Bidens tripartita* (+; Ce3), *Bolboschoenus maritimus* (+; Ce3), *Cynodon dactylon* (+; Ce3), *Elymus repens* (+; Ce3), *Lycopus europaeus* (+; Ce3), *Mentha pulegium* (+; Ce3), *Schoenoplectus lacustris* (1; Ce3), *Trifolium fragiferum* (+; Ce3).

Photo 16. Cerna River. 44.814112 Danube small reed fresh water tamarix stands
Foto 16. Râul Cerna. 44.814112 Tufărişuri danubiene de apă dulce de Tamarix ramosissima cu Calamagrostis epigejos

II.B. Habitats with no community importance

31.872 Shrubby clearings

Cerna River (Photo 17)

***Sambucetum nigrae* Oberdorfer et al. 1967**, with 14 species recorded in the plots, is a vulnerable plant community at the spring area of the river (Ce1). There can be assessed an overall medium disturbance, as half of the species are ruderal, to which there can be added other two alien species.

Key species: *Sambucus nigra* (4; Ce1).

Other species: *Arctium lappa* (+; Ce1), *Artemisia vulgaris* (+; Ce1), *Ballota nigra* (+; Ce1), *Bidens tripartita* (+; Ce1), *Chenopodium album* (+; Ce1), *Geum urbanum* (+; Ce1), *Lamium purpureum* (+; Ce1), *Morus alba* (+; Ce1), *Prunus domestica* (+; Ce1), *Salix alba* (1; Ce1), *Solanum nigrum* (+; Ce1), *Stellaria media* (+; Ce1), *Urtica dioica* (+; Ce1).

Photo 17. Cerna River. 31.872 Shrubby clearings
Foto 17. Râul Cerna. 31.872 Poieni cu tufărișuri

37.24 Flood swards and related communities

The habitat subtype, with 32 species recorded in the plots, includes three plant communities, ***Lythro salicariae-Juncetum effusi-inflexi* Todor et al. 1971, *Junco inflexi-Menthetum longifoliae* Lohmeyer 1953, *Sclerochloo-***

***Polygonetum avicularis* (Gams 1927) Soó 1940**, being considered endangered, sometimes vulnerable. The phytocoenoses with a low level of disturbance prevail, followed by medium disturbed ones, mainly due to ruderal species and less to the non-native ones. The species richness decreases from Peceneaga River – 13 species (Pe1) to Topolog – 12 species (Tp5), Valea Roştilor – 11 species (Vr1), Cerna – 11 species (Ce2), Greci rivers – nine species (Gr2).

Cerna River (Photo 18)

***Lythro salicariae-Juncetum effusi-inflexi* Todor et al. 1971**, counting 11 species, is an endangered plant community in the middle course of the Cerna River (Ce2). The phytocoenoses dominated by *Lythrum salicaria* were framed, at least provisionally, within the above mentioned plant community, which was the only one described from Romania (SANDA, VICOL, ŞTEFĂNUŢ, 2008) that has as codominant and constant species *Lythrum salicaria,* even if no species of *Juncus* was observed. The coenotaxon can be considered low disturbed, taking into account the two ruderal species that were recorded.

Key species: *Lythrum salicaria* (3; Ce2).

Other species: *Agrostis stolonifera* (+; Ce2), *Bidens tripartita* (+; Ce2), *Lycopus europaeus* (+; Ce2), *Mentha longifolia* (+; Ce2), *Mentha pulegium* (1; Ce2), *Potentilla reptans* (+; Ce2), *Rumex palustris* (+; Ce2), *Salix alba* (+; Ce2), *Urtica dioica* (+; Ce2), *Xanthium italicum* (+; Ce2).

Photo 18. Cerna River. *Lythro salicariae-Juncetum effusi-inflexi* Todor et al. 1971
Foto 18. Râul Cerna. Lythro salicariae-Juncetum effusi-inflexi Todor et al. 1971

Greci River

***Junco inflexi-Menthetum longifoliae* Lohmeyer 1953**, with nine species recorded in the plots, is an endangered plant community within the middle course of the river (Gr2). Two non-native species (*Ambrosia artemisiifolia, Elaeagnus angustifolia*) show a low invasive trend of such taxa.

Key species: *Mentha longifolia* (4; Gr2).

Other species: *Althaea officinalis* (+; Gr2), *Ambrosia artemisiifolia* (+; Gr2), *Atriplex prostrata* (+; Gr2), *Calystegia sepium* (+; Gr2), *Elaeagnus angustifolia* (+; Gr2), *Galega officinalis* (+; Gr2), *Lycopus europaeus* (+; Gr2), *Sparganium erectum* (+; Gr2).

Valea Roştilor River

***Junco inflexi-Menthetum longifoliae* Lohmeyer 1953**, with 11 species recorded in the plots, is an endangered plant community within the upper course of the river (Vr1), with a low disturbance due to the three ruderal species.

Key species: *Juncus inflexus* (3; Vr1), *Mentha longifolia* (1; Vr1).

Other species: *Agrostis stolonifera* (+; Vr1), *Cynodon dactylon* (+; Vr1), *Lolium perenne* (+; Vr1), *Lycopus europaeus* (+; Vr1), *Melilotus albus* (+; Vr1), *Ononis spinosa* (+; Vr1), *Plantago major* (+; Vr1), *Trifolium fragiferum* (+; Vr1), *Xanthium italicum* (+; Vr1).

Peceneaga River (Photo 19)

***Sclerochloo-Polygonetum avicularis* (Gams 1927) Soó 1940**, with 13 species recorded in the plots, is an endangered plant community in the upper course of the Peceneaga River (Pe1), where it can be considered as medium disturbed, as the number of ruderal taxa (8) exceeds the total inventory of species.

Photo 19. Peceneaga River. 37.24 Flood swards and related communities
Foto 19. Râul Peceneaga. 37.24 Pajişti aluviale şi comunităţi înrudite

Key species: *Polygonum aviculare* (3; Pe1).

Other species: *Agrimonia eupatoria* (+; Pe1), *Ballota nigra* (+; Pe1), *Crataegus monogyna* (+; Pe1), *Daucus carota* (+; Pe1), *Lolium perenne* (+; Pe1), *Mentha longifolia* (+; Pe1), *Plantago major* (+; Pe1), *Scrophularia nodosa* (+; Pe1), *Taraxacum officinale* (+; Pe1), *Trifolium fragiferum* (+; Pe1), *Urtica dioica* (+; Pe1), *Xanthium italicum* (+; Pe1).

Topolog River

***Sclerochloo-Polygonetum avicularis* (Gams 1927) Soó 1940**, with 12 species recorded in the plots, is a vulnerable plant community at the inflow of the river in Hazarlâc Lake (Tp5). A medium disturbance can be deduced from the presence of six species with a significant coverage variation (+; 1).

Key species: *Centaurea calcitrapa* (+; Tp5), *Lolium perenne* (1; Tp5), *Polygonum aviculare* (4; Tp5).

Other species: *Bromus squarrosus* (+; Tp5), *Hordeum geniculatum* (+; Tp5), *Phragmites australis* (+; Tp5), *Plantago major* (+; Tp5), *Ranunculus sceleratus* (+; Tp5), *Rumex palustris* (+; Tp5), *Salix alba* (1; Tp5), *Trifolium fragiferum* (+; Tp5), *Xanthium italicum* (+; Tp5).

37.2422 Creeping bent flood swards

This habitat subtype, counting 22 species within the plots, was observed as rare, sometimes endangered or vulnerable. All the studied phytocoenoses had a low level of disturbance due to ruderal species. The species richness decreases from Peceneaga River – 13 species (Pe1) to Jijila – eight species (Ji2) and Greci – six species (Gr3).

Greci River

***Agrostetum stoloniferae* (Ujvarosi 1941) Burduja et al. 1956**, with six species recorded in the plots, is a vulnerable plant community at the inflow in Măcin Branch (Gr3). Two species belong to the ruderal category, showing a low disturbance.

Key species: *Agrostis stolonifera* (3; Gr3).

Other species: *Plantago major* (+; Gr3), *Ranunculus sceleratus* (+; Gr3), *Rorripa sylvestris* (+; Gr3), *Sparganium erectum* (+; Gr3), *Verbena officinalis* (+; Gr3).

Jijila River

***Agrostetum stoloniferae* (Ujvarosi 1941) Burduja et al. 1956**, with eight species recorded in the plots, is a rare plant community in the area where it was studied, at the middle course of the Jijila River (Ji2), with only a ruderal taxon, with low coverage.

Key species: *Agrostis stolonifera* (2; Ji2).

Other species: *Bidens tripartita* (+; Ji2), *Cichorium intybus* (+; Ji2), *Cynodon dactylon* (+; Ji2), *Echinochloa crus-galli* (1; Ji2), *Polygonum aviculare* (+; Ji2), *Rumex palustris* (+; Ji2), *Tamarix ramosissima* (1; Ji2).

Peceneaga River

***Agrostetum stoloniferae* (Ujvarosi 1941) Burduja et al. 1956**, with 13 species recorded in the plots, is an endangered plant community in the upper course of the Peceneaga River (Pe1). A low disturbance is indicated by the presence of five ruderal species.

Key species: *Agrostis stolonifera* (3; Pe1).

Other species: *Agrimonia eupatoria* (+; Pe1), *Ballota nigra* (+; Pe1), *Crataegus monogyna* (+; Pe1), *Daucus carota* (+; Pe1), *Lolium perenne* (+; Pe1), *Mentha longifolia* (+; Pe1), *Plantago major* (+; Pe1), *Scrophularia nodosa* (+; Pe1), *Taraxacum officinale* (+; Pe1), *Trifolium fragiferum* (+; Pe1), *Urtica dioica* (+; Pe1), *Xanthium italicum* (+; Pe1).

37.2424 Common couch flood swards

Topolog River

***Rorippo austriacae-Agropyretum repentis* (Timár 1947) R. Tüxen 1950**, with seven identified species, is a sporadic plant community within the middle course of the river, at Calfa. Three ruderal species show a low level of disturbance.

Key species: *Elymus repens* (4; Tp3).

Other species: *Bromus sterilis* (+; Tp3), *Cardaria draba* (+; Tp3), *Gratiola officinalis* (+; Tp3), *Mentha aquatica* (+; Tp3), *Ononis spinosa* (+; Tp3), *Urtica dioica* (+; Tp3).

53.1111 Freshwater *Phragmites* beds

The habitat subtype/ plant community, with 40 species recorded in the plots, considered mainly vulnerable, less sporadic or rare, has a number of species presented in decreasing order along the rivers: Peceneaga – 16 species (Pe2, Pe3, Pe4), Jijila – 15 species (Ji2, Ji3), Greci – 13 species (Gr1, Gr2), Topolog – 11 species (Tp4, Tp5), Luncaviţa – six species (Lu3), Valea Roştilor – four species (Vr3), Cerna – four species (Ce3). It can be considered globally as a low disturbed coenotaxon (Greci, Peceneaga, Topolog, Valea Roştilor), and less in its natural status (Luncaviţa, Cerna), respectively medium disturbed (Jijila).

Cerna River

***Scirpo-Phragmitetum* W. Koch 1926**, contains four species, being a rare and undisturbed plant community at the inflow of the river in Traian Lake (Ce3).

Key species: *Phragmites australis* (5; Ce3), *Schoenoplectus lacustris* (+; Ce3).

Other species: *Agrostis stolonifera* (+; Ce3), *Lythrum salicaria* (+; Ce3).

Greci River

***Scirpo-Phragmitetum* W. Koch 1926**, counting 13 species, was observed as a vulnerable plant community in the upper course (Gr1), as well as sporadic within the middle course (Gr2). An alien species, *Elaeagnus angustifolia*, and three ruderal taxa indicate a low level of invasive tendencies.

Key species: *Phragmites australis* (3-4; Gr1, Gr2).

Other species: *Artemisia vulgaris* (+; Gr1), *Berula erecta* (+; Gr2), *Cannabis ruderalis* (+; Gr1), *Cynodon dactylon* (+; Gr1), *Elaeagnus angustifolia* (+; Gr2), *Plantago major* (+; Gr2) *Polygonum aviculare* (+; Gr1), *Polygonum persicaria* (+; Gr1), *Portulaca oleracea* (+; Gr1), *Ranunculus sceleratus* (+; Gr2), *Rumex palustris* (+; Gr2), *Xanthium italicum* (+; Gr1).

Jijila River

***Scirpo-Phragmitetum* W. Koch 1926**, with 15 species in the plots, is vulnerable within the middle course of Jijila River (Ji2) and at its discharge area (Ji3). It can be considered overall as a medium disturbed coenotaxon, as there were identified a non-native species (*Ambrosia artemisiifolia*) with a low coverage, but also seven ruderal species with a significant dominance variation.

Key species: *Phragmites australis* (2-5; Ji2, Ji3).

Other species: *Agrostis stolonifera* (+; Ji2), *Ambrosia artemisiifolia* (+; Ji2, Ji3), *Arctium lappa* (+; Ji3), *Artemisia vulgaris* (+; Ji3), *Bolboschoenus maritimus* (1; Ji2), *Calystegia sepium* (+; Ji3), *Cannabis ruderalis* (+; Ji3), *Daucus carota* (+; Ji3), *Echinochloa crus-galli* (1; Ji2), *Lolium perenne* (+; Ji2), *Lycopus europaeus* (+; Ji2), *Polygonum aviculare* (+; Ji2), *Rumex palustris* (+; Ji2), *Tamarix ramosissima* (+; Ji2).

Luncaviţa River

***Scirpo-Phragmitetum* W. Koch 1926**, with its six species, can be considered sporadic and undisturbed at the discharge area of Luncaviţa River (Lu3).

Key species: *Phragmites australis* (2-4; Lu3).

Other species: *Agrostis stolonifera* (+; Lu3), *Berula erecta* (+; Lu3), *Lemna minor* (+; Lu3), *Ranunculus sceleratus* (+; Lu3), *Sparganium erectum* (1; Lu3).

Peceneaga River

***Scirpo-Phragmitetum* W. Koch 1926**, contains 16 species, being a frequent plant community within the middle course of the Peceneaga River (Pe2, Pe3), respectively a rare coenotaxon at its inflow in Peceneaga Pond (Pe4). The seven ruderal taxa with a reduced coverage, as well as the non-native *Morus alba,* show a low disturbance.

Key species: *Phragmites australis* (3-4-5; Pe2, Pe3, Pe4).

Other species: *Agrostis stolonifera* (+; Pe4), *Arctium lappa* (+; Pe2), *Artemisia vulgaris* (+; Pe2), *Ballota nigra* (+; Pe2), *Berula erecta* (+; Pe4), *Cannabis ruderalis* (+; Pe2), *Convolvulus arvensis* (+; Pe2), *Cynodon dactylon* (+; Pe2), *Elymus repens* (+; Pe2), *Lythrum salicaria* (+; Pe3), *Morus alba* (+; Pe3), *Rumex palustris* (+; Pe3), *Solanum nigrum* (+; Pe2), *Sparganium erectum* (+; Pe4), *Urtica dioica* (+; Pe2).

Topolog River

***Scirpo-Phragmitetum* W. Koch 1926**, was recorded as a vulnerable association in the studied area, at the inflow (Tp5), respectively as sporadic near to Saraiu village, within the middle course (Tp4). A low disturbance is indicated by only one ruderal species.

Key species: *Phragmites australis* (2-4-5; Tp5).

Other species: *Agrostis stolonifera* (+; Tp4), *Berula erecta* (+; Tp4), *Echinochloa crus-galli* (+; Tp4), *Polygonum mite* (+; Tp5), *Polygonum persicaria* (+; Tp4), *Ranunculus sceleratus* (+; Tp4), Tp5), *Rorripa sylvestris* (+; Tp4), *Salix triandra* (+; Tp5), *Schoenoplectus tabernaemontani* (+; Tp4), *Trifolium fragiferum* (+; Tp4).

Valea Roştilor River

***Scirpo-Phragmitetum* W. Koch 1926**, contains four species, being a sporadic and undisturbed plant community at the inflow in Danube River of the Valea Roştilor River (Vr3).

Key species: *Phragmites australis* (3; Vr3).

Other species: *Berula erecta* (+; Vr3), *Bidens tripartita* (+; Vr3), *Ranunculus sceleratus* (+; Vr3).

53.132 Lesser reedmace beds

***Typhetum angustifoliae* Pignatti 1953** counts 13 species in total, being noticed along the Greci River – six species (Gr3) and Peceneaga River – 10 species (Pe1, Pe4). There it is considered globally as endangered and low disturbed. Only one rare threatened species was identified, endangered at least within the plots.

Greci River (Photo 20)

***Typhetum angustifoliae* Pignatti 1953**, with six species, was observed as endangered at the inflow in Măcin Branch of the Greci River (Gr3), where it can be considered in its natural status.

Key species: *Typha angustifolia* (5; Gr3).

Other species: *Alisma plantago-aquatica* (+; Gr3), *Berula erecta* (+; Gr3), *Butomus umbellatus* (+; Gr3), *Polygonum lapathifolium* (+; Gr3), *Sparganium erectum* (1; Gr3).

Photo 20. Greci River. 53.132 Lesser reedmace beds
Foto 20. Râul Greci. 53.132 Comunităţi cu Typha angustifolia

Peceneaga River

***Typhetum angustifoliae* Pignatti 1953**, counting 10 species, can be considered as endangered at the inflow (Pe4) and in its upper course (Pe1). *Hordeum jubatum*, an alien species, and just one ruderal species indicate a low level of invasion of this kind of taxon.

Key species: *Typha angustifolia* (3-4; Pe1, Pe4).

Threatened species: *Polypogon monspeliensis* (+; Pe4).

Other species: *Agrostis stolonifera* (+; Pe1), *Berula erecta* (1; Pe4), *Bolboschoenus maritimus* (+; Pe4), *Galium aparine* (+; Pe1), *Hordeum jubatum* (+; Pe4), *Rorippa sylvestris* (+; Pe4), *Schoenoplectus tabernaemontani* (1; Pe4), *Trifolium fragiferum* (1; Pe4).

53.143 Erect bur-reed communities

The habitat subtype, with a total number of 15 species, can be considered as vulnerable (sometimes rare) and undisturbed. It has a higher richness within the Greci River – 11 species (Gr2, Gr3), than along the Luncaviţa River – nine species (Lu3).

Greci River (Photo 21)

***Sparganietum erecti* Roll.1938**, with six species, can be considered as vulnerable and undisturbed in the midlle course of the river (Gr2).

Key species: *Sparganium erectum* (3; Gr2).

Other species: *Berula erecta* (+; Gr2), *Lycopus europaeus* (+; Gr2), *Lythrum salicaria* (+; Gr2), *Phragmites australis* (+; Gr2), *Rorippa sylvestris* (+; Gr2).

***Sparganietum erecti* Roll.1938**, with six species, can be considered as rare and undisturbed at the discharge area of the river (Gr3).

Key species: *Sparganium erectum* (4; Gr3).

Other species: *Alisma plantago-aquatica* (+; Gr3), *Butomus umbellatus* (+; Gr3), *Ceratophyllum demersum* (+; Gr3), *Lemna minor* (+; Gr3), *Mentha pulegium* (+; Gr3).

Photo 21. Greci River. 53.143 Erect bur-reed communities
Foto 21. Râul Greci. 53.143 Comunităţi de Sparganium erectum

Luncaviţa River

***Sparganietum erecti* Roll.1938**, counting nine species, was noticed as a rare and undisturbed plant community in the area of the discharge area of the river (Lu3).

Key species: *Sparganium erectum* (2-4; Lu3).

Other species: *Agrostis stolonifera* (+; Lu3), *Berula erecta* (+; Lu3), *Galium palustre* (+; Lu3), *Lemna minor* (+; Lu3), *Lythrum salicaria* (1; Lu3), *Phragmites australis* (1; Lu3), *Ranunculus sceleratus* (+; Lu3), *Typha latifolia* (+; Lu3).

53.4 Small reed beds of fast-flowing waters

This habitat subtype, considered endangered, counts 15 species, while the number of species is decreasing as follows: Peceneaga – 16 species (Pe2, Pe3, Pe4), Greci – 13 species (Gr1, Gr2), Cerna – four species (Ce3). It can be considered globally as medium disturbed (Greci River), sometimes low disturbed (Peceneaga River) or undisturbed (Cerna River).

Pecenega River

***Mentho aquaticae-Beruletum (Sietum) erectae* Nedelcu 1971, corr. Sanda & Popescu 2001**, with nine species, is an endangered and low disturbed (one ruderal species) plant community in the studied area, at the discharge area (Pe4).

Key species: *Berula erecta* (3; Pe4).

Other species: *Alisma plantago-aquatica* (+; Pe4), *Bolboschoenus maritimus* (1; Pe4), *Bromus squarrosus* (+; Pe4), *Butomus umbellatus* (+; Pe4), *Plantago major* (+; Pe4), *Schoenoplectus tabernaemontani* (1; Pe4), *Trifolium fragiferum* (1; Pe4), *Typha angustifolia* (+; Pe4).

Greci River

***Mentho aquaticae-Beruletum (Sietum) erectae* Nedelcu 1971, corr. Sanda & Popescu 2001**, with eight species, is an endangered plant community within the middle course of the river (Gr2). It can be estimated as a medium disturbed coenotaxon, as the dominance of the two ruderal species is framed between + and 1.

Key species: *Berula erecta* (3; Gr2).

Other species: *Galega officinalis* (+; Gr2), *Juncus inflexus* (+; Gr2), *Echinochloa crus-galli* (1; Gr2), *Mentha longifolia* (1; Gr2), *Plantago major* (+; Gr2), *Rorippa sylvestris* (+; Gr2), *Sparganium erectum* (+; Gr2).

Cerna River

***Mentho aquaticae-Beruletum (Sietum) erectae* Nedelcu 1971, corr. Sanda & Popescu 2001**, counting six species, was recorded as endangered and undisturbed at the discharge area of the river (Ce3). One vulnerable threatened species was identified, endangered within this phytocoenosis.

Key species: *Mentha aquatica* (2; Ce3).

Threatened species: *Trapa natans* (+; Ce3).

Other species: *Alisma plantago-aquatica* (+; Ce3), *Bidens tripartita* (+; Ce3), *Lycopus europaeus* (+; Ce3), *Schoenoplectus lacustris* (+; Ce3).

III. AVIFAUNA

Luncavița River. It has as a starting point (Lu1) a forest habitat which makes the dominance of the species to be those characteristic of forest areas, observing here more significant populations of species such as: *Picus canus*, *Dryocopus martius*, *Dendrocopos major*, *Dendrocopos medius*, *Dendrocopos minor*, *Troglodytes troglodytes, Erithacus rubecula, Luscinia megarhynchos*, *Phoenicurus phoenicurus*, *Turdus merula, Turdus pilaris*, *Turdus philomelos*, *Hippolais icterina*, *Sylvia curruca*, *Sylvia atricapilla*, *Phylloscopus sibilatrix, Phyllopus collybita*, *Cyanistes caeruleus*, *Parus major*, *Sitta europaea*, *Certhia familiaris*, *Oriolus oriolus*, *Lanius collurio*, *Garrulus glandarius*, *Sturnus vulgaris*, *Fringilla coelebs*, *Chloris chloris*, *Carduelis carduelis* (Table 2, Figure 2). Having its sources in the forest massif near the Fagilor Valley, the avifauna from this monitoring point of the Luncavița River, is typical of the forest habitat characteristic of North Dobrogea.

Photo 22. Luncavița River. *Emberiza calandra*
Foto 22. Râul Luncavița. Emberiza calandra

The habitat of the second observation point (Lu2) is similar to the first point, so the avifauna is similar, but with a greater variety of species (Figure 3). The discharge area of the river (Lu3), permanently flooded with shallow water or not, where reeds develop, is a nesting place for some species of waterfowl and marshes. Among the main species of birds found here we mention: *Anas querquedulla*, *Croicocephalus ridibundus*, *Podiceps cristatus.* Among the species characteristic of compact reeds we list: *Acrocephalus palustris*, *Ardea cinerea*, *Ardea purpurea*, *Ardeola ralloides*, *Egreta garzetta*, *Emberiza calandra* (Photo 22), *Emberiza schoeniclus*, *Gallinula chloropus*, *Ixobrychus minutus*, *Nycticorax nycticorax* etc. (Table 2).

Jijila River. It has at the starting point, at springs (Ji1), the typical forest habitat, as well as pasture areas, ravines of loess, so that the avifauna identified here is much diversified as species number, but with small populations (Table 3, Figures 2, 3).

Among the species characteristic of the steppe habitat and the pastures near the monitoring points along the Jijila River we mention: *Oenanthe oenanthe*, *Oenanthe isabellina*, *Coturnix coturnix*, *Perdix perdix*, larcks (Fam. Alaudidae) and, in the habitats with shrubs in the area, *Lanius minor*. In the banks of the loess nest species of birds such as: *Athene noctua*, *Coracias garrulus*, *Falco tinnunculus*, *Merops apiaster*, *Riparia riparia.* Some species with a higher frequency appear in the bush habitat at the observation points along the river: *Accipiter nisus*, *Carduelis carduelis*, *Carduelis chloris*, *Cyanistes caeruleus*, *Falco tinnunculus*, *Lanius collurio*, *Luscinia luscinia rubecula*, *Muscicapa striata*, *Oriolus oriolus*, *Phasianus colchicus*, *Phoenicurus phoenicurus, Parus major*, *Sylvia communis*, *Sylvia curruca*, *Turdus merula*, *Turdus philomelos*, *Upupa epops*.

Anthropogenic ecosystems in the area, represented here also largely by agroecosystems, occupy a large part of the proximity of the second monitoring point (Ji2). Here is an avifauna made up of characteristic species, mainly represented by species such as: *Alauda arvensis*, *Gallerida cristata*, *Melanocorypha calandra.*

The watershed of the Jijila River (Ji3) is rich in bird species and it is used for feeding by many species of shorebirds, such as: *Actitis hipoleucos*, *Fulica atra*, *Gallinago gallinago*, *Gallinula chloropus*, *Limosa limosa*, *Phylomachus pugnax*, *Tringa erythropus*, *Tringa glareola*, *Tringa nebularia*, *Tringa ochropus* (Photo 23), *Tringa totanus*, *Vanellus vanellus*, most ducks species, herons.

During migration and winter, species such as *Clanga pomarina*, *Pelecanus crispus*, *Pelecanus onocrotalus*, *Branta ruficollis*, *Phalacrocorax pygmaeus*, *Anser albifrons*, *Tadorna ferruginea*, etc. can also be observed (Table 3, figures 2, 4).

Photo 23. Cerna River. *Tringa ochropus*
Foto 23. Râul Cerna. Tringa ochropus

Greci River. At the first observation point (Gr1), there are habitats represented by agroecosystems, pastures, rocks, reeds, but with an extremely low flow at springs. The avifauna identified here is rich both in number of species and in population (Table 4, figures 2, 3).

The species characteristic of the steppe area and the pastures crossed by the Greci River, species of birds that generally present a blurred, uniform color, with poorly pronounced or even non-existent sexual dimorphism, nest here directly on the ground. Among them we mention: *Coturnix coturnix, Perdix perdix,* larcks (Fam. Alaudidae), etc., and in the local shrubs: *Lanius collurio, Lanius minor*. The pastures around the Greci River have a small number of nesting species (Figure 5), one of the causes of declining nesting populations being overgrazing and generally practiced throughout the year.

Anthropogenic ecosystems in the area of the second monitoring point (Gr2), represented here also largely by agroecosystems, occupy a large part of the proximity of this point. Here is an avifauna also composed of characteristic species, mainly represented by species such as: *Alauda arvensis, Gallerida cristata, Melanocorypha calandra* (Figure 4).

The outflow of the Greci River (Gr3) is preferred for feeding by a number of Charadriifomes, such as: *Alcedo atthis* (Photo 24), *Charadrius dubius*, *Himantopus himantopus*, *Recurvirostra avocetta*.

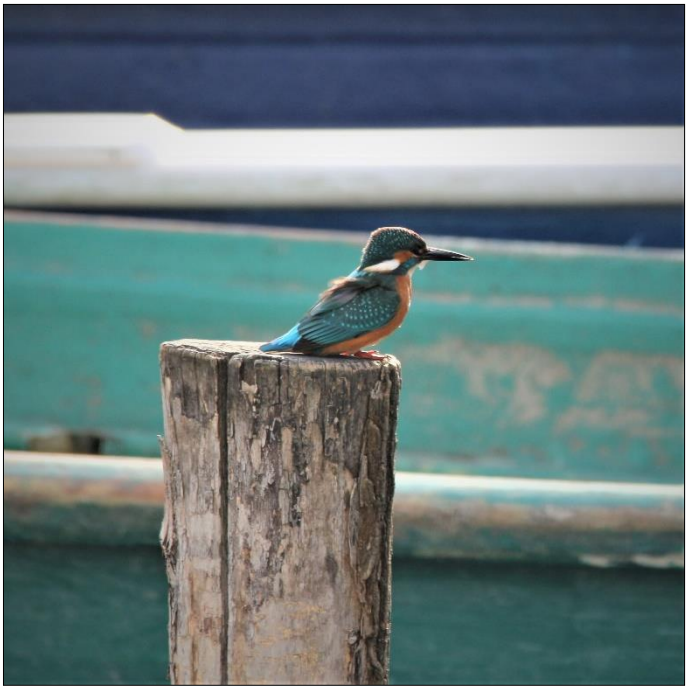

Photo 24. Cerna River. *Alcedo atthis*
Foto 24. Râul Cerna. Alcedo atthis

During the migration and winter periods, can be observed species such as: *Anser albifrons*, *Branta ruficollis*, *Clanga pomarina*, *Pelecanus crispus*, *Pelecanus onocrotalus*, *Phalacrocorax pygmaeus*, *Tadorna ferruginea*, etc.

In the area of the shores of loess nest species such as: *Athene noctua*, *Coracias garrulus*, *Falco tinnunculus*, *Merops apiaster* and *Riparia riparia*. The most frequently occurring species in the river bush habitat are: *Accipiter nisus*, *Carduelis carduelis*, *Carduelis chloris*, *Cyanistes caeruleus*, *Erithacus rubecula*, *Falco tinnunculus*, *Lanius collurio*, *Luscinia megarhynchos*, *Muscicapa striata*, *Oriolus oriolus*, *Parus major*, *Phasianus colchicus*, *Pica pica*, *Sylvia communis*, *Sylvia curruca*, *Turdus merula*, *Turdus philomelos*, *Upupa epops*.

Another identified category is the species that in a certain period of the biological cycle use several biotopes, from different habitats, for example some species of day predators that nest in the forest area but the feeding territory overlaps, at least partially, the Greci river basin (Table 4, figures 2, 4, 5).

Cerna River. The anthropogenic ecosystems in the spring area of the Cerna River (Ce1), represented here also largely by agroecosystems, occupy a large part of the vicinity of this point. Here is an avifauna made up of typical

species, mainly represented by: *Alauda arvensis*, *Coloeus monedula*, *Gallerida cristata*, *Melanocorypha calandra*, *Passer domesticus*, *Passer montanus*, *Pica pica*, *Streptopelia decaocto*, *Sylvia curruca* (Table 5, figures 4, 5).

The third monitoring point (Ce3), that corresponds to the discharge area in Traian Lake and later in the Dunărea Veche-Măcin Branch, presents a richness of bird species, here being identified over 108 species (Table 6, Figure 2). These are mainly aquatic species, the area being used for feeding by many shorebirds such as: *Charadrius dubius*, *Himantopus himantopus*, *Recurvirostra avocetta*, most species of ducks and herons. During migration and winter, species such as *Anser albifrons*, *Branta ruficollis*, *Clanga pomarina*, *Pelecanus crispus*, *Pelecanus onocrotalus*, *Phalacrocorax pygmaeus* etc. can also be observed.

During the migration and winter period, can be observed species like: *Anser albifrons*, *Branta ruficollis*, *Clanga pomarina*, *Microcarbo pygmaeus*, *Pelecanus crispus*, *Pelecanus onocrotalus*, *Tadorna ferruginea*, etc.

The areas near the Ce3 station of the Cerna River, where reeds develop, whether or not permanently flooded with shallow water, are nesting and feeding places for waterfowl and marsh-depend birds, especially for warbler species, but also for *Tadorna ferruginea* (Figure 5).

Photo 25. Cerna River. *Botaurus stellaris*
Foto 25. Râul Cerna. Botaurus stellaris

In the area of the loess shores nest species such as: *Athene noctua, Botaurus stellaris* (Photo 25), *Coracias garrulus*, *Falco tinnunculus*, *Merops apiaster* and *Riparia riparia*. The most frequent species in the river bush habitat are: *Accipiter nisus*, *Carduelis carduelis*, *Carduelis chloris*, *Cyanistes caeruleus*, *Erithacus rubecula*, *Falco tinnunculus*, *Lanius collurio*, *Luscinia megarhynchos*, *Muscicapa striata*, *Oriolus oriolus*, *Parus major, Phasianus colchicus, Pica pica*, *Sylvia communis*, *Sylvia curruca*, *Turdus merula, Turdus philomelos*, *Upupa epops*.

Another identified category is formed by species that in a certain period of the biological cycle use several biotopes from different habitats, for example some species of day predators that nest in the forest area but the feeding territory overlaps, at least partially, the area of the Cerna River.

The species characteristics of the aquatic habitat are mostly migratory. The few sedentary species (those that have provided food from aquatic resources) leave this habitat in the cold winters, when the water freezes completely (Figure 3).

Peceneaga River. The course of the Peceneaga River has, at its starting point, at springs (Pe1), the typical forest habitat, as well as areas of pasture, ravines of loess, so that the avifauna identified here is much diversified as species, but with small populations (Table 6, Figure 2). In the bush habitat along the river, the species that appear more frequently are: *Carduelis carduelis*, *Carduelis chloris*, *Erithacus rubecula*, *Luscinia megarhynchos*, *Muscicapa striata*, *Oriolus oriolus*, *Parus major*, *Phoenicurus phoenicurus*, *Sylvia communis*, *Sylvia curruca*, *Turdus merula* (Photo 26), *Turdus philomelos*, *Upupa epops*.

Photo 26. Peceneaga River. *Turdus merula*
Foto 26. Râul Peceneaga. Turdus merula

In the steppe and pasture habitats near the point (Pe2), monitoring on the Peceneaga River, we frequently find species such as: *Coturnix coturnix*, *Oenanthe isabellina*, *Oenanthe oenanthe*, species of larcks *(*Fam. Alaudidae*)*, *Perdix perdix* etc.

The watershed of the Peceneaga River (Pe4) is occupied for feeding by a wide variety of bird species: shorebirds, ducks, herons, gulls and terns. In spring, autumn and winter, during migration periods, here occur species like: *Anas clypeata*, *Anas crecca*, *Anas penelope*, *Anser albifrons*, *Branta ruficollis*, *Clanga pomarina*, *Microcarbo pygmaeus*, *Pelecanus crispus*, *Pelecanus onocrotalus*, *Tadorna ferruginea*, *Tadorna tadorna*, etc. (Figure 4).

Valea Roștilor River. The anthropogenic ecosystems in the area of the starting point of the Valea Roștrilor River (VR1), represented mostly by agroecosystems and pastures, occupy a large part of the vicinity of this monitoring point. Here is an avifauna made up of species mainly represented by: *Alauda arvensis, Coloeus monedula*, *Gallerida cristata*, *Passer domesticus*, *Passer montanus*, *Melanocorypha calandra*, *Pica pica*, *Streptopelia decaocto*, *Sylvia curruca* (Table 7, Figure 4). In the bush habitats at the monitoring points along the Valea Roștrilor River, the species that occur more frequently are: *Accipiter nisus*, *Carduelis carduelis*, *Carduelis chloris*, *Cyanistes caeruleus*, *Erithacus rubecula*, *Falco tinnunculus*, *Lanius collurio*, *Luscinia megarhynchos*, *Muscicapa striata*, *Oriolus oriolus*, *Phasianus colchicus*, *Phoenicurus phoenicurus*, *Sylvia communis*, *Sylvia curruca*, *Turdus merula*, *Turdus philomelos*, *Upupa epops*.

The point (VR2) is broadly similar to the habitats at the first point on the Valea Roștrilor River, mostly represented by agroecosystems and pastures.

In the outflow zone (VR3), the avifauna is specific to wetlands, lakes and marshy areas, and can be observed here species such as: *Acrocephalus palustris*, *Anas querquedulla*, *Anas strepera*, *Ardea cinerea*, *Ardea purpurea*, *Ardeola ralloides*, *Aythya nyroca*, *Botaurus stellaris*, *Circus aeruginosus*, *Egreta garzetta*, *Emberiza schoeniclus*, *Fulica atra*, *Gallinula chloropus*, *Ixobrychus minutus*, *Larus ridibundus*, *Nycticorax nycticorax*, *Plegadis falcinellus*, *Podiceps cristatus*, *Podiceps griseigena*, *Podiceps nigricollis*, *Sterna hirundo*.

During the migration periods and the winter, there are also species such as: *Anser albifrons*, *Branta ruficollis*, *Clanga pomarina*, *Haliaeetus albicilla* (Photo 27), *Microcarbo pygmaeus*, *Pelecanus crispus*, *Pelecanus onocrotalus*, *Tadorna ferruginea*, etc. (Table 7, Figure 4).

Photo 27. Valea Roștrilor River. *Haliaeetus albicilla*
Foto 27. Râul Valea Roștrilor. *Haliaeetus albicilla*

Topolog River. The course of the Topolog River (Tp1) also starts at a forest habitat, the area called ”La trei peri” in the Cerbu village area, at the base of the hill, so the avifauna from this point is rich, diverse, but with small populations, typical of forest habitats (Table 7, Figure 2).

Anthropogenic ecosystems from the second monitoring point area (Tp2), from the area of Sâmbăta Nouă village, represented here and for the most part by agroecosystems, pastures and rocks, occupy a large part of the proximity of this point. Here is an avifauna also made up of typical species, mainly represented by: *Alauda arvensis*, *Gallerida cristata*, *Melanocorypha calandra* (Figure 4).

In the bush habitat along the Topolog River, the most common species are: *Carduelis carduelis*, *Carduelis chloris*, *Cyanistes caeruleus*, *Emberiza melanocephala*, *Erithacus rubecula*, *Falco tinnunculus*, *Luscinia megarhynchos*, *Muscicapa striata*, *Oriolus oriolus*, *Parus major*, *Phasianus colchicus*, *Phoenicurus phoenicurus*, *Sylvia curruca*, *Sylvia atricapilla*, *Turdus merula*, *Turdus philomelos*, *Upupa epops*.

The third observation point (Tp3), located near the Calfa village, resembles both the type of habitat and the structure of the avifauna with the point (Tp2).

The fourth observation point (Tp4) is located downstream of Saraiu village, the habitats here being mostly represented by agroecosystems, pastures, steppe pasture areas and reeds (Figure 2).

The point in the discharge area of the Topolog River, in Hazarlâc Lake, has a numerically rich, diversified avifauna, being mainly characteristic of ponds and wetlands but also species typical of steppe areas. Here are observed species such as: *Acrocephalus palustris*, *Anas querquedulla*, *Anas strepera*, *Ardea alba* (Photo 28), *Ardea cinerea*, *Ardea purpurea*, *Ardeola ralloides*, *Aythya nyroca*, *Charadrius dubius*, *Circus aeruginosus*, *Croicocephalus ridibundus*, *Cygnus cygnus* (Photo 29), *Egreta garzetta*, *Emberiza schoeniclus*, *Fulica atra*, *Gallinula chloropus*, *Himantopus himantopus*, *Ixobrychus minutus*, *Nycticorax nycticorax*, *Podiceps cristatus*, *Podiceps nigricollis*, *Recurvirostra avocetta*, *Sterna hirundo*. During migration periods were observed species such as: *Anser albifrons*, *Branta ruficollis*, *Clanga pomarina*, *Microcarbo pygmaeus*, *Pelecanus crispus*, *Pelecanus onocrotalus*, *Tadorna ferruginea*, *Tadorna tadorna*, etc. (Table 8, figures 2, 4).

Photo 28. Topolog River. *Ardea alba*
Foto 28. Râul Topolog. Ardea alba

Photo 29. Topolog River. *Cygnus cygnus*
Foto 29. Râul Topolog. Cygnus cygnus

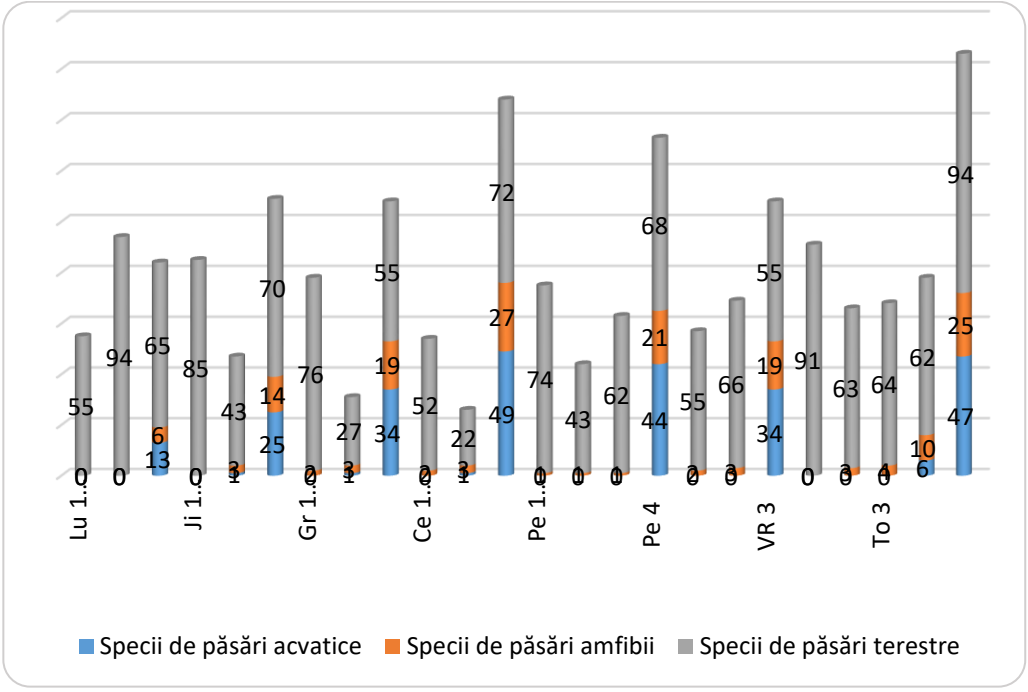

Figure 2. Framing of identified bird species on the major habitats along the researched rivers
Fig. 2. Încadrarea speciilor de păsări identificate pe habitatele majore de pe cursul râurilor cercetate

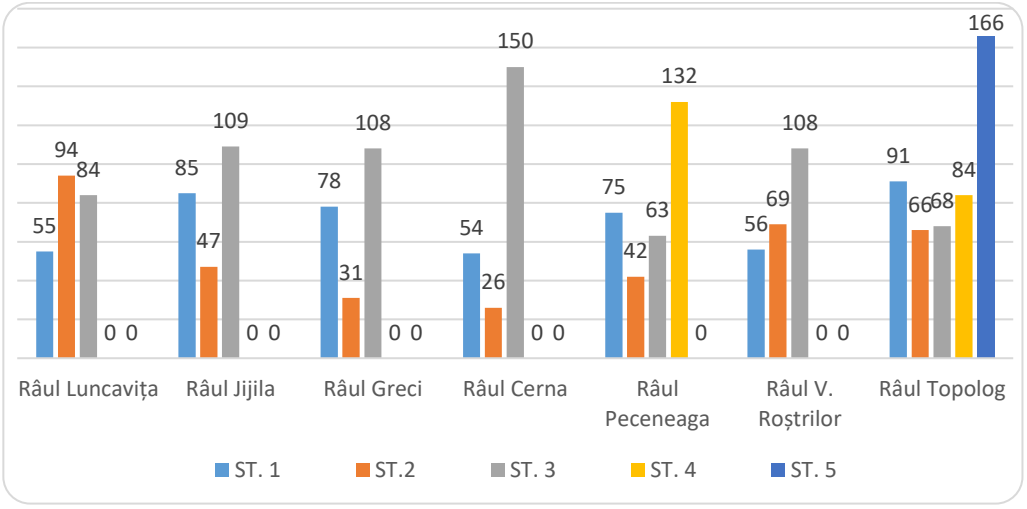

Figure 3. Number of bird species identified in the monitoring points on the studied river courses
Fig. 3. Numărul speciilor de păsări identificate în punctele de monitorizare de pe cursul râurilor cercetate

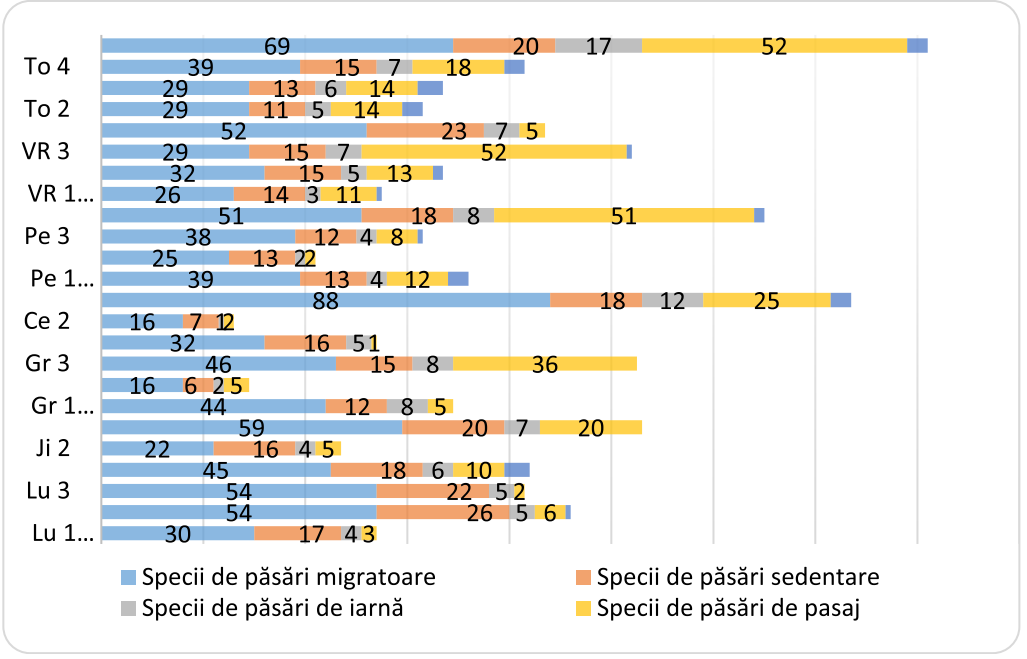

Figure 4. Phenological classification of bird species identified in the monitoring points
Fig. 4. Încadrarea fenologica a speciilor de păsări identificate în punctele de monitorizare

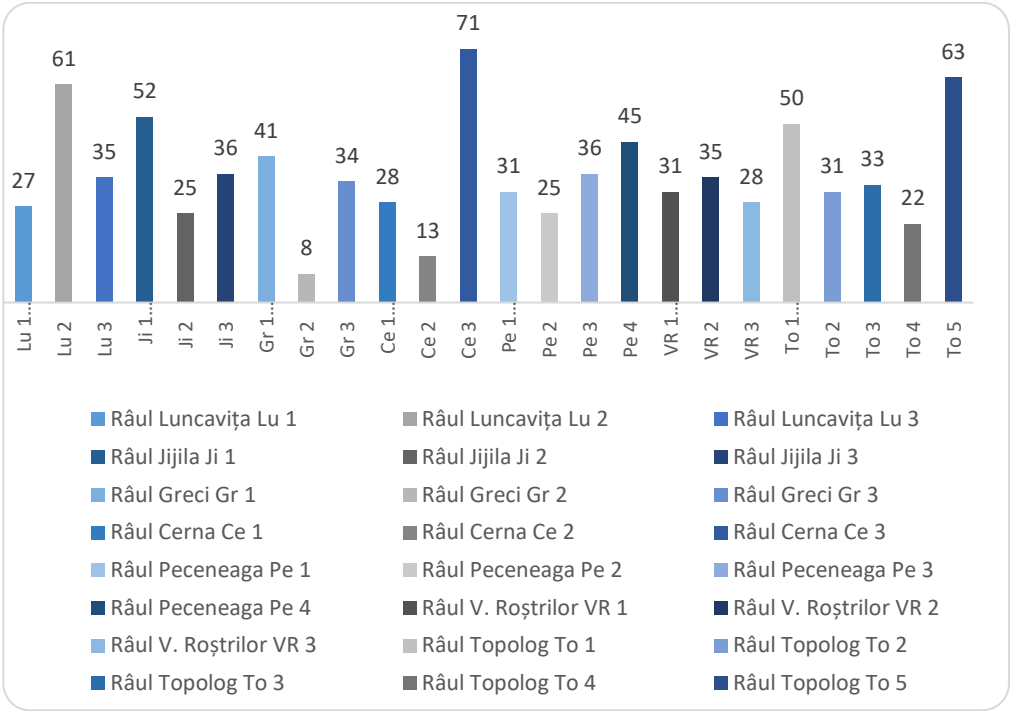

Figure 5. Number of nesting bird species at monitoring points
Fig. 5. Numărul de specii de păsări cuibăritoare în punctele de monitorizare

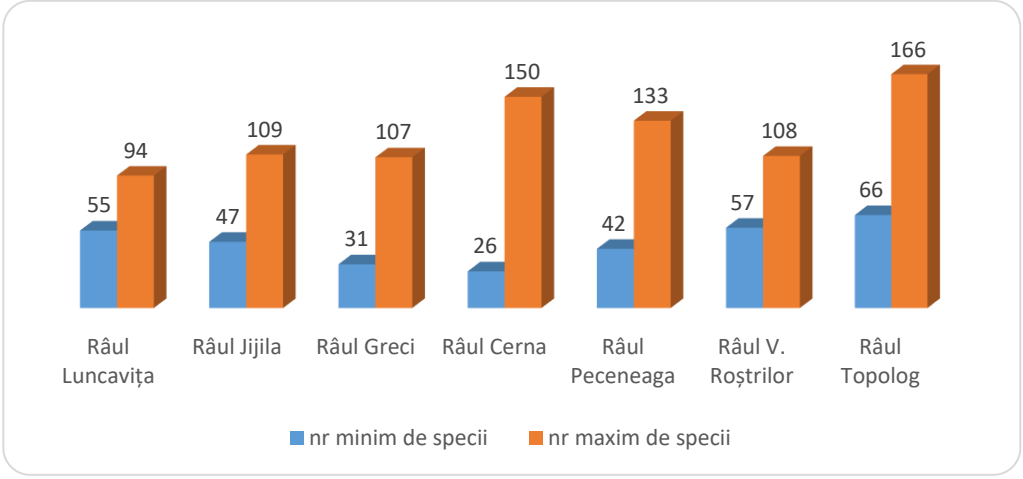

Figure 6. Minimum and maximum number of bird species identified in the monitoring point of the studied river course
Fig. 6. Minima și maxima numarului de specii de păsari identificate în punctele de monitorizare ale cursurilor râurilor cercetate

Along to the seven studied rivers, the largest number of bird species was identified along the Topolog River, in the discharge area, respectively 166 species, followed closely by the Cerna River, which has a number of 108 bird species at the discharge area also. The lowest number of bird species identified at an observation point was recorded along the Cerna River, 26 species of birds, followed by the Greci River with 31 species (Figure 5).

Tabel 2. List of the bird species identified along the Luncavița River
Tabelul 2. Lista speciilor de păsări identificate pe cursul râului Luncavița

Lu1 (spring area)	**Lu2** (Cetățuia bridge)	**Lu3** (discharge area)
Pernis apivorus	*Pernis apivorus*	*Egretta garzetta*
Milvus migrans	*Milvus migrans*	*Ardea cinerea*
Circus cyaneus	*Circaetus gallicus*	*Ciconia nigra*
Accipiter gentilis	*Circus cyaneus*	*Ciconia ciconia*
Accipiter nisus	*Accipiter gentilis*	*Anser anser*
Buteo buteo	*Accipiter nisus*	*Anas platyrhynchos*
Buteo rufinus	*Accipiter brevipes*	*Milvus migrans*
Buteo lagopus	*Buteo buteo*	*Haliaeetus albicilla*
Clanga pomarina	*Buteo rufinus*	*Circaetus gallicus*
Aquila pennata	*Buteo lagopus*	*Circus aeruginosus*
Falco tinnunculus	*Clanga pomarina*	*Circus cyaneus*
Falco vespertinus	*Hiraaetus pennatus*	*Circus macrourus*
Falco subbuteo	*Falco tinnunculus*	*Accipiter nisus*
Columba palumbus	*Falco vespertinus*	*Buteo buteo*
Streptopelia turtur	*Falco columbarius*	*Buteo rufinus*
Cuculus canorus	*Falco subbuteo*	*Buteo lagopus*
Strix aluco	*Falco peregrinus*	*Aquila pomarina*
Asio otus	*Coturnix coturnix*	*Aquila pennata*
Merops apiaster	*Phasianus colchius*	*Falco tinnunculus*
Upupa epops	*Crex crex*	*Falco vespertinus*
Picus canus	*Vanellus vanellus*	*Falco columbarius*
Dryocopus martius	*Actitis hipoleucos*	*Falco subbuteo*
Dendrocopos major	*Columba palumbus*	*Perdix perdix*
Dendrocopos medius	*Streptopelia decaocto*	*Coturnix coturnix*
Dendrocopos minor	*Streptopelia turtur*	*Phasianus colchius*
Troglodytes troglodytes	*Cuculus canorus*	*Burhinus oedicnemus*
Erithacus rubecula	*Athene noctua*	*Vanellus vanellus*
Luscinia megarhynchos	*Strix aluco*	*Actitis hipoleucos*
Phoenicurus phoenicurus	*Asio otus*	*Larus ridibundus*
Turdus merula	*Caprimulgus europaeus*	*Larus canus*
Turdus pilaris	*Merops apiaster*	*Streptopelia decaocto*
Turdus philomelos	*Coracias garrulus*	*Streptopelia turtur*
Hippolais icterina	*Upupa epops*	*Cuculus canorus*
Sylvia curruca	*Picus canus*	*Athene noctua*
Sylvia atricapilla	*Dryocopus martius*	*Merops apiaster*
Phylloscopus sibilatrix	*Dendrocopos major*	*Coracias garrulus*
Phylloscopus collybita	*Dendrocopos syriacus*	*Upupa epops*
Phylloscopus trochilus	*Leiopicus medius*	*Melanocorypha calandra*
Muscicapa striata	*Dryobates minor*	*Galerida cristata*
Ficedula albicollis	*Galerida cristata*	*Alauda arvensis*
Ficedula hypoleuca	*Lullula arborea*	*Riparia riparia*

Cyanistes caeruleus *Parus major* *Sitta europaea* *Certhia familiaris* *Oriolus oriolus* *Lanius collurio* *Garrulus glandarius* *Corvus corax* *Sturnus vulgaris* *Fringilla coelebs* *Fringilla montifringilla* *Carduelis chloris* *Carduelis carduelis*	*Alauda arvensis* *Hirundo rustica* *Anthus campestris* *Motacilla flava* *Motacilla cinerea* *Motacilla alba* *Troglodytes troglodytes* *Erithacus rubecula* *Luscinia megarhynchos* *Phoenicurus phoenicurus* *Oenanthe oenanthe* *Turdus merula* *Turdus pilaris* *Turdus philomelos* *Turdus iliacus* *Turdus viscivorus* *Iduna pallida* *Hippolais icterina* *Sylvia nisoria* *Sylvia curruca* *Sylvia atricapilla* *Phylloscopus sibilatrix* *Phylloscopus collybita* *Phylloscopus trochilus* *Muscicapa striata* *Ficedula parva* *Ficedula albicollis* *Cyanistes caeruleus* *Parus major* *Sitta europaea* *Certhia familiaris* *Oriolus oriolus* *Lanius collurio* *Lanius minor* *Lanius excubitor* *Garrulus glandarius* *Pica pica* *Corvus monedula* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Sturnus roseus* *Passer domesticus* *Passer montanus* *Fringilla coelebs* *Fringilla montifringilla* *Chloris chloris* *Carduelis carduelis* *Carduelis spinus* *Linaria cannabina* *Coccothraustes coccothraustes* *Emberiza citrinella* *Emberiza calandra*	*Hirundo rustica* *Delichon urbicum* *Anthus campestris* *Motacilla flava* *Motacilla cinerea* *Motacilla alba* *Luscinia megarhynchos* *Phoenicurus ochruros* *Phoenicurus phoenicurus* *Saxicola rubetra* *Oenanthe oenanthe* *Turdus merula* *Phylloscopus collybita* *Parus caeruleus* *Parus major* *Oriolus oriolus* *Lanius collurio* *Lanius minor* *Pica pica* *Corvus monedula* *Corvus frugilegus* *Corvus corone* *Sturnus vulgaris* *Passer domesticus* *Passer montanus* *Fringilla coelebs* *Fringilla montifringilla* *Serinus serinus* *Carduelis chloris* *Carduelis carduelis* *Carduelis spinus* *Emberiza calandra*
55	**94**	**84**

Tabel 3. List of the bird species identified along the Jijila River
Tabelul 3. Lista speciilor de păsări identificate pe cursul râului Jijila

Ji1 (spring area)	**Ji2** (downstream Jijila village)	**Ji3** (discharge area)
Pernis apivorus	*Ardea cinerea*	*Tachybaptus rufficolis*
Milvus migrans	*Ciconia nigra*	*Phalacrocorax carbo*
Haliaeetus albicilla	*Ciconia ciconia*	*Pelecanus onocrotalus*
Circaetus gallicus	*Pernis apivorus*	*Ixobrychus minutus*
Circus aeruginosus	*Milvus migrans*	*Nycticorax nycticorax*
Circus cyaneus	*Circaetus gallicus*	*Ardeola ralloides*
Circus macrourus	*Circus aeruginosus*	*Egretta garzetta*
Circus pygargus	*Circus cyaneus*	*Ardea alba*
Accipiter gentilis	*Accipiter nisus*	*Ardea cinerea*
Accipiter nisus	*Buteo buteo*	*Ciconia nigra*
Accipiter brevipes	*Falco tinnunculus*	*Ciconia ciconia*
Buteo buteo	*Tringa glareola*	*Plegadis falcinelles*
Buteo rufinus	*Streptopelia decaocto*	*Anser albifrons*
Buteo lagopus	*Cuculus canorus*	*Anser anser*
Clanga pomarina	*Athene noctua*	*Tadorna ferruginea*
Hiraaetus pennatus	*Merops apiaster*	*Tadorna tadorna*
Falco tinnunculus	*Upupa epops*	*Anas crecca*
Falco vespertinus	*Dendrocopos syriacus*	*Anas platyrhynchos*
Falco columbarius	*Galerida cristata*	*Spatula querquedula*
Falco subbuteo	*Hirundo rustica*	*Spatula clypeata*
Falco peregrinus	*Delichon urbicum*	*Aythya nyroca*
Coturnix coturnix	*Anthus campestris*	*Pernis apivorus*
Phasianus colchius	*Motacilla flava*	*Milvus migrans*
Tringa erythropus	*Motacilla cinerea*	*Haliaeetus albicilla*
Tringa ochropus	*Motacilla alba*	*Circaetus gallicus*
Tringa glareola	*Troglodytes troglodytes*	*Circus aeruginosus*
Actitis hipoleucos	*Luscinia megarhynchos*	*Circus cyaneus*
Columba palumbus	*Phoenicurus ochruros*	*Accipiter nisus*
Streptopelia turtur	*Phoenicurus phoenicurus*	*Accipiter brevipes*
Cuculus canorus	*Turdus merula*	*Buteo buteo*
Merops apiaster	*Sylvia curruca*	*Buteo rufinus*
Coracias garrulus	*Phylloscopus collybita*	*Buteo lagopus*
Upupa epops	*Cyanistes caeruleus*	*Clanga pomarina*
Picus canus	*Parus major*	*Hiraaetus pennatus*
Dryocopus martius	*Oriolus oriolus*	*Falco naumanni*
Dendrocopos major	*Lanius collurio*	*Falco tinnunculus*
Leiopicus medius	*Pica pica*	*Falco vespertinus*
Dryobates minor	*Corvus monedula*	*Falco columbarius*
Lullula arborea	*Corvus frugilegus*	*Falco subbuteo*
Alauda arvensis	*Corvus corone cornix*	*Perdix perdix*
Hirundo rustica	*Sturnus vulgaris*	*Coturnix coturnix*
Anthus campestris	*Passer domesticus*	*Phasianus colchius*
Motacilla flava	*Passer montanus*	*Gallinula chloropus*
Motacilla alba	*Fringilla coelebs*	*Fulica atra*
Troglodytes troglodytes	*Fringilla montifringilla*	*Vanellus vanellus*
Erithacus rubecula	*Linaria cannabina*	*Phylomachus pugnax*
Luscinia megarhynchos	*Emberiza calandra*	*Gallinago gallinago*
Phoenicurus phoenicurus		*Limosa limosa*
Saxicola rubetra		*Tringa erythropus*
Oenanthe oenanthe		*Tringa totanus*
Turdus merula		*Tringa nebularia*
Turdus pilaris		*Tringa ochropus*

Turdus philomelos *Turdus iliacus* *Turdus viscivorus* *Sylvia curruca* *Sylvia atricapilla* *Phylloscopus sibilatrix* *Phylloscopus collybita* *Muscicapa striata* *Ficedula parva* *Ficedula albicollis* *Ficedula hypoleuca* *Cyanistes caeruleus* *Parus major* *Sitta europaea* *Certhia familiaris* *Oriolus oriolus* *Lanius collurio* *Lanius minor* *Lanius excubitor* *Garrulus glandarius* *Pica pica* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Fringilla coelebs* *Fringilla montifringilla* *Serinus serinus* *Chloris chloris* *Carduelis carduelis* *Coccothraustes coccothraustes* *Emberiza citrinella* *Emberiza hortulana* *Emberiza calandra*		*Tringa glareola* *Actitis hipoleucos* *Chroicocephalus ridibundus* *Larus canus* *Larus chachinans* *Larus michaelis* *Sterna hirundo* *Chlidonias hybrida* *Columba palumbus* *Streptopelia decaocto* *Cuculus canorus* *Caprimulgus europaeus* *Merops apiaster* *Upupa epops* *Dendrocopos syriacus* *Dryobates minor* *Galerida cristata* *Alauda arvensis* *Riparia riparia* *Hirundo rustica* *Delichon urbicum* *Anthus campestris* *Motacilla flava* *Motacilla alba* *Luscinia luscinia* *Phoenicurus phoenicurus* *Oenanthe oenanthe* *Turdus merula* *Turdus pilaris* *Turdus philomelos* *Acrocephalus scripaceus* *Acrocephalus arundinaceus* *Sylvia curruca* *Phylloscopus collybita* *Muscicapa striata* *Ficedula parva* *Ficedula albicollis* *Cyanistes caeruleus* *Parus major* *Oriolus oriolus* *Lanius collurio* *Pica pica* *Corvus monedula* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Sturnus roseus* *Passer domesticus* *Passer montanus* *Fringilla coelebs* *Fringilla montifringilla* *Serinus serinus* *Chloris chloris* *Carduelis carduelis* *Linaria cannabina* *Emberiza hortulana* *Emberiza calandra*
85	**47**	**109**

Tabel 4. List of the bird species identified along the Greci River
Tabelul 4. Lista speciilor de păsări identificate pe cursul râului Greci

Gr1 (spring area)	**Gr2** (bridge on DN22)	**Gr3** (discharge area)
Pernis apivorus	*Ardea cinerea*	*Tachybaptus rufficolis*
Milvus migrans	*Ciconia nigra*	*Podiceps cristatus*
Haliaeetus albicilla	*Ciconia ciconia*	*Phalacrocorax carbo*
Circaetus gallicus	*Pernis apivorus*	*Microcarbo pygmaeus*
Circus aeruginosus	*Milvus migrans*	*Pelecanus onocrotalus*
Circus cyaneus	*Circaetus gallicus*	*Ixobrychus minutus*
Circus macrourus	*Circus aeruginosus*	*Nycticorax nycticorax*
Circus pygargus	*Circus cyaneus*	*Ardeola ralloides*
Accipiter gentilis	*Accipiter nisus*	*Egretta garzetta*
Accipiter nisus	*Buteo buteo*	*Ardea alba*
Accipiter brevipes	*Falco tinnunculus*	*Ardea cinerea*
Buteo buteo	*Tringa glareola*	*Ciconia nigra*
Buteo rufinus	*Streptopelia decaocto*	*Ciconia ciconia*
Buteo lagopus	*Merops apiaster*	*Plegadis falcinelles*
Clanga pomarina	*Upupa epops*	*Platalea leucorodia*
Hiraaetus pennatus	*Galerida cristata*	*Anser albifrons*
Falco tinnunculus	*Hirundo rustica*	*Anser anser*
Falco vespertinus	*Delichon urbicum*	*Branta ruficollis*
Falco columbarius	*Anthus campestris*	*Tadorna ferruginea*
Falco subbuteo	*Motacilla flava*	*Tadorna tadorna*
Falco peregrinus	*Motacilla cinerea*	*Mareca strepera*
Coturnix coturnix	*Motacilla alba*	*Anas crecca*
Phasianus colchius	*Lanius collurio*	*Anas platyrhynchos*
Actitis hipoleucos	*Pica pica*	*Spatula querquedula*
Columba palumbus	*Corvus monedula*	*Spatula clypeata*
Streptopelia turtur	*Corvus frugilegus*	*Aythya ferina*
Cuculus canorus	*Corvus corone cornix*	*Aythya nyroca*
Merops apiaster	*Sturnus vulgaris*	*Mergelus albellus*
Coracias garrulus	*Fringilla coelebs*	*Pernis apivorus*
Upupa epops	*Fringilla montifringilla*	*Milvus migrans*
Picus canus	*Emberiza calandra*	*Haliaeetus albicilla*
Lullula arborea		*Circaetus gallicus*
Alauda arvensis		*Circus aeruginosus*
Hirundo rustica		*Circus cyaneus*
Anthus campestris		*Accipiter nisus*
Motacilla flava		*Buteo buteo*
Motacilla alba		*Buteo rufinus*
Troglodytes troglodytes		*Buteo lagopus*
Erithacus rubecula		*Clanga pomarina*
Luscinia megarhynchos		*Hiraaetus pennatus*
Phoenicurus phoenicurus		*Falco tinnunculus*
Saxicola rubetra		*Falco vespertinus*
Oenanthe oenanthe		*Falco columbarius*
Turdus merula		*Falco subbuteo*
Turdus pilaris		*Falco peregrinus*
Turdus philomelos		*Perdix perdix*
Turdus iliacus		*Coturnix coturnix*
Turdus viscivorus		*Phasianus colchius*
Sylvia curruca		*Rallus aquaticus*
Sylvia atricapilla		*Gallinula chloropus*
Phylloscopus sibilatrix		*Burhinus oedicnemus*

Phylloscopus collybita *Muscicapa striata* *Ficedula parva* *Ficedula albicollis* *Ficedula hypoleuca* *Cyanistes caeruleus* *Parus major* *Sitta europaea* *Certhia familiaris* *Oriolus oriolus* *Lanius collurio* *Lanius minor* *Lanius excubitor* *Garrulus glandarius* *Pica pica* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Fringilla coelebs* *Fringilla montifringilla* *Serinus serinus* *Chloris chloris* *Carduelis carduelis* *Coccothraustes coccothraustes* *Emberiza citrinella* *Emberiza hortulana* *Emberiza calandra*		*Charadrius dubius* *Charadrius alexandrinus* *Vanellus vanellus* *Calidris alpina* *Phylomachus pugnax* *Gallinago gallinago* *Limosa limosa* *Numenius phaeopus* *Tringa erythropus* *Tringa totanus* *Tringa stagnatilis* *Tringa nebularia* *Tringa ochropus* *Tringa glareola* *Actitis hipoleucos* *Hydrocoleus minutus* *Chroicocephalus ridibundus* *Larus canus* *Larus chachinans* *Larus michaelis* *Ichthyaetus ichthyaetus* *Chlidonias hybrida* *Columba palumbus* *Cuculus canorus* *Strix aluco* *Caprimulgus europaeus* *Alcedo atthis* *Merops apiaster* *Upupa epops* *Picus canus* *Dryocopus martius* *Dendrocopos major* *Leiopicus medius* *Dryobates minor* *Hirundo rustica* *Motacilla flava* *Motacilla alba* *Erithacus rubecula* *Luscinia luscinia* *Phoenicurus phoenicurus* *Saxicola rubetra* *Oenanthe oenanthe* *Sylvia curruca* *Phylloscopus collybita* *Muscicapa striata* *Cyanistes caeruleus* *Parus major* *Oriolus oriolus* *Lanius collurio* *Pica pica* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Fringilla coelebs* *Chloris chloris* *Emberiza calandra*
78	**31**	**108**

Tabel 5. List of the bird species observed along the Cerna River
Tabelul 5. Lista speciilor de păsări observate de-a lungul râului Cerna

Ce1 (spring area)	**Ce2** (bridge of Cerna village)	**Ce3** (discharge area)
Ciconia ciconia	*Ardea cinerea*	*Tachybaptus rufficolis*
Circus cyaneus	*Ciconia nigra*	*Podiceps cristatus*
Accipiter nisus	*Ciconia ciconia*	*Podiceps grisegena*
Buteo buteo	*Circus cyaneus*	*Phalacrocorax carbo*
Buteo lagopus	*Accipiter nisus*	*Microcarbo pygmaeus*
Falco tinnunculus	*Buteo buteo*	*Pelecanus onocrotalus*
Falco vespertinus	*Falco tinnunculus*	*Pelecanus crispus*
Falco columbarius	*Tringa glareola*	*Botaurus stellaris*
Falco subbuteo	*Streptopelia decaocto*	*Ixobrychus minutus*
Actitis hipoleucos	*Merops apiaster*	*Nycticorax nycticorax*
Streptopelia decaocto	*Upupa epops*	*Ardeola ralloides*
Cuculus canorus	*Galerida cristata*	*Bubulcus ibis*
Athene noctua	*Hirundo rustica*	*Egretta garzetta*
Merops apiaster	*Delichon urbicum*	*Ardea alba*
Coracias garrulus	*Anthus campestris*	*Ardea cinerea*
Upupa epops	*Motacilla flava*	*Ardea purpurea*
Dendrocopos syriacus	*Motacilla alba*	*Ciconia nigra*
Galerida cristata	*Lanius collurio*	*Ciconia ciconia*
Alauda arvensis	*Pica pica*	*Plegadis falcinelles*
Hirundo rustica	*Corvus monedula*	*Platalea leucorodia*
Delichon urbicum	*Corvus frugilegus*	*Cygnus olor*
Anthus campestris	*Corvus corone cornix*	*Cygnus columbianus*
Motacilla flava	*Sturnus vulgaris*	*Cygnus cygnus*
Motacilla alba	*Fringilla coelebs*	*Anser albifrons*
Troglodytes troglodytes	*Fringilla montifringilla*	*Anser anser*
Erithacus rubecula	*Emberiza calandra*	*Branta ruficollis*
Luscinia luscinia		*Tadorna ferruginea*
Phoenicurus phoenicurus		*Tadorna tadorna*
Oenanthe oenanthe		*Mareca penelope*
Turdus merula		*Mareca strepera*
Turdus philomelos		*Anas crecca*
Sylvia curruca		*Anas platyrhynchos*
Sylvia atricapilla		*Anas acuta*
Phylloscopus collybita		*Spatula querquedula*
Muscicapa striata		*Spatula clypeata*
Ficedula parva		*Netta rufina*
Panurus biarmicus		*Aythya ferina*
Parus caeruleus		*Aythya nyroca*
Parus major		*Aythya fuligula*
Oriolus oriolus		*Mergelus albellus*
Lanius collurio		*Pernis apivorus*
Pica pica		*Milvus migrans*
Corvus monedula		*Milvus milvus*
Corvus frugilegus		*Haliaeetus albicilla*
Corvus corone		*Circaetus gallicus*
Sturnus vulgaris		*Circus aeruginosus*
Passer domesticus		*Circus cyaneus*
Passer montanus		*Circus macrourus*
Fringilla coelebs		*Accipiter nisus*
Fringilla montifringilla		*Buteo buteo*

Carduelis chloris *Carduelis carduelis* *Carduelis cannabina* *Emberiza calandra*		*Buteo rufinus* *Buteo lagopus* *Clanga pomarina* *Hiraaetus pennatus* *Falco tinnunculus* *Falco vespertinus* *Falco subbuteo* *Falco peregrinus* *Perdix perdix* *Coturnix coturnix* *Phasianus colchius* *Rallus aquaticus* *Porzana parva* *Crex crex* *Gallinula chloropus* *Fulica atra* *Himantopus himantopus* *Recurvirostra avosetta* *Burhinus oedicnemus* *Charadrius dubius* *Charadrius alexandrinus* *Vanellus vanellus* *Calidris minuta* *Calidris ferruginea* *Calidris alpina* *Phylomachus pugnax* *Gallinago gallinago* *Limosa limosa* *Numenius arquata* *Tringa erythropus* *Tringa totanus* *Tringa stagnatilis* *Tringa nebularia* *Tringa ochropus* *Tringa glareola* *Actitis hipoleucos* *Hydrocoleus minutus* *Larus ridibundus* *Larus genei* *Larus canus* *Larus chachinans* *Larus michaelis* *Sterna hirundo* *Sternula albifrons* *Chlidonias hybrida* *Chlidonias niger* *Chlidonias leucopterus* *Streptopelia decaocto* *Streptopelia turtur* *Cuculus canorus* *Athene noctua* *Merops apiaster* *Coracias garrulus* *Upupa epops* *Dendrocopos syriacus* *Galerida cristata* *Alauda arvensis*

		Riparia riparia *Hirundo rustica* *Delichon urbicum* *Anthus campestris* *Motacilla flava* *Motacilla cinerea* *Motacilla alba* *Troglodytes troglodytes* *Luscinia megarhynchos* *Phoenicurus phoenicurus* *Turdus merula* *Locustella naevia* *Locustella luscinioides* *Acrocephalus palustris* *Acrocephalus scripaceus* *Acrocephalus arundinaceus* *Sylvia curruca* *Sylvia communis* *Sylvia atricapilla* *Phylloscopus collybita* *Muscicapa striata* *Ficedula parva* *Ficedula albicollis* *Cyanistes caeruleus* *Parus major* *Oriolus oriolus* *Lanius collurio* *Lanius minor* *Pica pica* *Corvus monedula* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Sturnus roseus* *Passer domesticus* *Passer hispaniolensis* *Passer montanus* *Fringilla coelebs* *Chloris chloris* *Carduelis carduelis* *Carduelis spinus* *Linaria cannabina* *Emberiza calandra*
54	**26**	**150**

Tabel 6. List of the bird species observed along the Peceneaga River
Tabelul 6. Lista speciilor de păsări observate de-a lungul râului Peceneaga

Pe1 (spring area)	**Pe2** (upstream Dorobanțu village)	**Pe3** (Peceneaga village)	**Pe4** (discharge area)
Pernis apivorus	*Ciconia ciconia*	*Pernis apivorus*	*Tachybaptus rufficolis*
Milvus migrans	*Milvus migrans*	*Haliaeetus albicilla*	*Podiceps cristatus*
Circaetus gallicus	*Circaetus gallicus*	*Circaetus gallicus*	*Podiceps grisegena*
Circus cyaneus	*Circus cyaneus*	*Circus cyaneus*	*Phalacrocorax carbo*

Circus macrourus	*Accipiter nisus*	*Accipiter nisus*	*Microcarbo pygmaeus*
Circus pygargus	*Buteo buteo*	*Buteo buteo*	*Pelecanus onocrotalus*
Accipiter gentilis	*Falco tinnunculus*	*Buteo rufinus*	*Pelecanus crispus*
Accipiter nisus	*Streptopelia decaocto*	*Buteo lagopus*	*Botaurus stellaris*
Buteo buteo	*Cuculus canorus*	*Hiraaetus pennatus*	*Ixobrychus minutus*
Buteo rufinus	*Athene noctua*	*Falco tinnunculus*	*Nycticorax nycticorax*
Buteo lagopus	*Merops apiaster*	*Falco vespertinus*	*Ardeola ralloides*
Clanga pomarina	*Upupa epops*	*Falco columbarius*	*Egretta garzetta*
Hiraaetus pennatus	*Dendrocopos syriacus*	*Falco subbuteo*	*Ardea alba*
Falco tinnunculus	*Galerida cristata*	*Coturnix coturnix*	*Ardea cinerea*
Falco vespertinus	*Hirundo rustica*	*Phasianus colchius*	*Ardea purpurea*
Falco columbarius	*Delichon urbicum*	*Actitis hipoleucos*	*Ciconia nigra*
Falco subbuteo	*Anthus campestris*	*Cuculus canorus*	*Ciconia ciconia*
Falco peregrinus	*Motacilla flava*	*Merops apiaster*	*Plegadis falcinelles*
Coturnix coturnix	*Motacilla cinerea*	*Coracias garrulus*	*Platalea leucorodia*
Phasianus colchius	*Motacilla alba*	*Upupa epops*	*Cygnus olor*
Actitis hipoleucos	*Troglodytes troglodytes*	*Picus canus*	*Cygnus cygnus*
Columba palumbus	*Luscinia*	*Lullula arborea*	*Anser albifrons*
Streptopelia turtur	*megarhynchos*	*Alauda arvensis*	*Anser anser*
Cuculus canorus	*Phoenicurus ochruros*	*Hirundo rustica*	*Tadorna ferruginea*
Merops apiaster	*Phoenicurus*	*Anthus campestris*	*Tadorna tadorna*
Coracias garrulus	*phoenicurus*	*Motacilla flava*	*Mareca strepera*
Upupa epops	*Turdus merula*	*Motacilla alba*	*Anas crecca*
Picus canus	*Sylvia curruca*	*Troglodytes troglodytes*	*Anas platyrhynchos*
Lullula arborea	*Phylloscopus collybita*	*Erithacus rubecula*	*Anas acuta*
Alauda arvensis	*Cyanistes caeruleus*	*Luscinia*	*Spatula querquedula*
Hirundo rustica	*Parus major*	*megarhynchos*	*Spatula clypeata*
Anthus campestris	*Oriolus oriolus*	*Phoenicurus*	*Aythya ferina*
Motacilla flava	*Lanius collurio*	*phoenicurus*	*Aythya nyroca*
Motacilla alba	*Pica pica*	*Saxicola rubetra*	*Aythya fuligula*
Troglodytes	*Corvus monedula*	*Oenanthe oenanthe*	*Pernis apivorus*
troglodytes	*Corvus frugilegus*	*Turdus merula*	*Milvus migrans*
Erithacus rubecula	*Corvus corone cornix*	*Turdus pilaris*	*Milvus milvus*
Luscinia	*Sturnus vulgaris*	*Turdus philomelos*	*Haliaeetus albicilla*
megarhynchos	*Passer domesticus*	*Sylvia curruca*	*Circaetus gallicus*
Phoenicurus	*Passer montanus*	*Sylvia atricapilla*	*Circus aeruginosus*
phoenicurus	*Fringilla coelebs*	*Phylloscopus sibilatrix*	*Circus cyaneus*
Saxicola rubetra	*Fringilla montifringilla*	*Phylloscopus collybita*	*Circus macrourus*
Oenanthe oenanthe	*Linaria cannabina*	*Muscicapa striata*	*Accipiter nisus*
Turdus merula	*Emberiza calandra*	*Ficedula parva*	*Buteo buteo*
Turdus pilaris		*Ficedula albicollis*	*Buteo rufinus*
Turdus philomelos		*Ficedula hypoleuca*	*Buteo lagopus*
Turdus iliacus		*Cyanistes caeruleus*	*Clanga pomarina*
Turdus viscivorus		*Parus major*	*Falco tinnunculus*
Sylvia curruca		*Sitta europaea*	*Falco vespertinus*
Sylvia atricapilla		*Certhia familiaris*	*Falco subbuteo*
Phylloscopus sibilatrix		*Oriolus oriolus*	*Falco peregrinus*
Phylloscopus collybita		*Lanius collurio*	*Perdix perdix*
Muscicapa striata		*Lanius minor*	*Coturnix coturnix*
Ficedula parva		*Lanius excubitor*	*Phasianus colchius*
Ficedula albicollis		*Pica pica*	*Rallus aquaticus*
Ficedula hypoleuca		*Corvus frugilegus*	*Porzana parva*
Cyanistes caeruleus		*Corvus corone cornix*	*Crex crex*
Parus major		*Sturnus vulgaris*	*Gallinula chloropus*
Sitta europaea		*Fringilla coelebs*	*Fulica atra*
Oriolus oriolus		*Fringilla montifringilla*	*Himantopus himantopus*
Lanius collurio		*Chloris chloris*	*Recurvirostra avosetta*

Lanius minor *Lanius excubitor* *Garrulus glandarius* *Pica pica* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Fringilla coelebs* *Fringilla montifringilla* *Serinus serinus* *Chloris chloris* *Carduelis carduelis* *Coccothraustes coccothraustes* *Emberiza citrinella* *Emberiza hortulana* *Emberiza calandra*		*Carduelis carduelis* *Emberiza citrinella* *Emberiza hortulana* *Emberiza calandra*	*Burhinus oedicnemus* *Charadrius dubius* *Charadrius alexandrinus* *Vanellus vanellus* *Phylomachus pugnax* *Gallinago gallinago* *Limosa limosa* *Tringa erythropus* *Tringa totanus* *Tringa stagnatilis* *Tringa nebularia* *Tringa ochropus* *Tringa glareola* *Actitis hipoleucos* *Hydrocoleus minutus* *Larus ridibundus* *Larus canus* *Larus chachinans* *Larus michaelis* *Sterna hirundo* *Sternula albifrons* *Chlidonias hybrida* *Streptopelia decaocto* *Streptopelia turtur* *Cuculus canorus* *Athene noctua* *Merops apiaster* *Coracias garrulus* *Upupa epops* *Dendrocopos syriacus* *Galerida cristata* *Alauda arvensis* *Riparia riparia* *Hirundo rustica* *Delichon urbicum* *Anthus campestris* *Motacilla flava* *Motacilla cinerea* *Motacilla alba* *Troglodytes troglodytes* *Luscinia megarhynchos* *Phoenicurus phoenicurus* *Turdus merula* *Locustella naevia* *Acrocephalus scripaceus* *Acrocephalus arundinaceus* *Sylvia curruca* *Sylvia communis* *Sylvia atricapilla* *Phylloscopus collybita* *Muscicapa striata* *Ficedula parva* *Ficedula albicollis* *Cyanistes caeruleus* *Parus major* *Oriolus oriolus*

			Lanius collurio *Lanius minor* *Pica pica* *Corvus monedula* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Sturnus roseus* *Passer domesticus* *Passer montanus* *Fringilla coelebs* *Chloris chloris* *Carduelis carduelis* *Carduelis spinus* *Linaria cannabina* *Emberiza calandra*
75	**42**	**63**	**133**

Tabel 7. List of the bird species observed along the Valea Roștilor River
Tabelul 7. Lista speciilor de păsări observate de-a lungul râului Valea Roștilor

VR1 (spring area)	**VR2** (Măgurele Village)	**VR3** (discharge area)
Ciconia ciconia	*Ciconia ciconia*	*Tachybaptus rufficolis*
Pernis apivorus	*Pernis apivorus*	*Podiceps cristatus*
Milvus migrans	*Milvus migrans*	*Phalacrocorax carbo*
Milvus milvus	*Circaetus gallicus*	*Microcarbo pygmaeus*
Circaetus gallicus	*Circus cyaneus*	*Pelecanus onocrotalus*
Circus cyaneus	*Circus macrourus*	*Ixobrychus minutus*
Accipiter nisus	*Accipiter nisus*	*Nycticorax nycticorax*
Buteo buteo	*Buteo buteo*	*Ardeola ralloides*
Buteo rufinus	*Buteo rufinus*	*Egretta garzetta*
Buteo lagopus	*Buteo lagopus*	*Ardea alba*
Clanga pomarina	*Clanga pomarina*	*Ardea cinerea*
Hiraaetus pennatus	*Hiraaetus pennatus*	*Ciconia nigra*
Falco tinnunculus	*Falco tinnunculus*	*Ciconia ciconia*
Falco vespertinus	*Falco vespertinus*	*Plegadis falcinelles*
Falco columbarius	*Falco columbarius*	*Platalea leucorodia*
Falco subbuteo	*Falco subbuteo*	*Anser albifrons*
Falco peregrinus	*Falco peregrinus*	*Anser anser*
Tringa glareola	*Phasianus colchius*	*Branta ruficollis*
Streptopelia decaocto	*Tringa glareola*	*Tadorna ferruginea*
Cuculus canorus	*Actitis hipoleucos*	*Tadorna tadorna*
Athene noctua	*Streptopelia decaocto*	*Mareca strepera*
Merops apiaster	*Cuculus canorus*	*Anas crecca*
Upupa epops	*Athene noctua*	*Anas platyrhynchos*
Dendrocopos syriacus	*Asio otus*	*Spatula querquedula*
Galerida cristata	*Caprimulgus europaeus*	*Spatula clypeata*
Lullula arborea	*Merops apiaster*	*Aythya ferina*
Alauda arvensis	*Upupa epops*	*Aythya nyroca*
Hirundo rustica	*Dendrocopos syriacus*	*Mergelus albellus*
Anthus campestris	*Galerida cristata*	*Pernis apivorus*
Motacilla flava	*Lullula arborea*	*Milvus migrans*
Motacilla alba	*Alauda arvensis*	*Haliaeetus albicilla*
Luscinia megarhynchos	*Hirundo rustica*	*Circaetus gallicus*

Phoenicurus phoenicurus	*Delichon urbicum*	*Circus aeruginosus*
Oenanthe isabellina	*Anthus campestris*	*Circus cyaneus*
Oenanthe oenanthe	*Motacilla flava*	*Accipiter nisus*
Turdus merula	*Motacilla alba*	*Buteo buteo*
Sylvia curruca	*Troglodytes troglodytes*	*Buteo rufinus*
Sylvia borin	*Erithacus rubecula*	*Buteo lagopus*
Muscicapa striata	*Luscinia megarhynchos*	*Clanga pomarina*
Ficedula parva	*Phoenicurus phoenicurus*	*Hiraaetus pennatus*
Cyanistes caeruleus	*Oenanthe isabellina*	*Falco tinnunculus*
Parus major	*Oenanthe oenanthe*	*Falco vespertinus*
Oriolus oriolus	*Sylvia curruca*	*Falco columbarius*
Lanius collurio	*Sylvia atricapilla*	*Falco subbuteo*
Pica pica	*Phylloscopus collybita*	*Falco peregrinus*
Corvus monedula	*Regulus regulus*	*Perdix perdix*
Corvus frugilegus	*Muscicapa striata*	*Coturnix coturnix*
Corvus corone cornix	*Ficedula parva*	*Phasianus colchius*
Sturnus vulgaris	*Ficedula hypoleuca*	*Rallus aquaticus*
Passer domesticus	*Cyanistes caeruleus*	*Gallinula chloropus*
Passer montanus	*Parus major*	*Burhinus oedicnemus*
Fringilla coelebs	*Oriolus oriolus*	*Charadrius dubius*
Chloris chloris	*Lanius collurio*	*Charadrius alexandrinus*
Carduelis carduelis	*Garrulus glandarius*	*Vanellus vanellus*
Linaria cannabina	*Pica pica*	*Calidris alpina*
Emberiza hortulana	*Corvus monedula*	*Phylomachus pugnax*
Emberiza calandra	*Corvus frugilegus*	*Gallinago gallinago*
	Corvus corone cornix	*Limosa limosa*
	Sturnus vulgaris	*Numenius phaeopus*
	Passer domesticus	*Tringa erythropus*
	Passer montanus	*Tringa totanus*
	Fringilla coelebs	*Tringa stagnatilis*
	Fringilla montifringilla	*Tringa nebularia*
	Chloris chloris	*Tringa ochropus*
	Carduelis carduelis	*Tringa glareola*
	Linaria cannabina	*Actitis hipoleucos*
	Emberiza hortulana	*Hydrocoleus minutus*
	Emberiza melanocephala	*Chroicocephalus ridibundus*
	Emberiza calandra	*Larus canus*
		Larus chachinans
		Larus michaelis
		Ichthyaetus ichthyaetus
		Chlidonias hybrida
		Columba palumbus
		Cuculus canorus
		Strix aluco
		Caprimulgus europaeus
		Alcedo atthis
		Merops apiaster
		Upupa epops
		Picus canus
		Dryocopus martius
		Dendrocopos major
		Leiopicus medius
		Dryobates minor
		Hirundo rustica
		Motacilla flava
		Motacilla alba
		Erithacus rubecula

		Luscinia luscinia *Phoenicurus phoenicurus* *Saxicola rubetra* *Oenanthe oenanthe* *Sylvia curruca* *Phylloscopus collybita* *Muscicapa striata* *Cyanistes caeruleus* *Parus major* *Oriolus oriolus* *Lanius collurio* *Pica pica* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Fringilla coelebs* *Chloris chloris* *Emberiza calandra*
57	**69**	**108**

Tabel 8. List of the bird species observed along the Topolog River
Tabelul 8. Lista speciilor de păsări observate pe cursul râului Topolog

Tp1 (spring area)	**Tp2** (downstream Sâmbăta Nouă village)	**Tp3** (upstream Calfa village)	**Tp4** (down stream Saraiu village)	**Tp5** (discharge area)
Pernis apivorus	*Ciconia nigra*	*Ciconia nigra*	*Egretta garzetta*	*Podiceps cristatus*
Milvus migrans	*Ciconia ciconia*	*Ciconia ciconia*	*Ardea alba*	*Phalacrocorax carbo*
Circaetus gallicus	*Pernis apivorus*	*Pernis apivorus*	*Ardea cinerea*	*Microcarbo pygmaeus*
Circus aeruginosus	*Milvus migrans*	*Milvus migrans*	*Ciconia ciconia*	*Pelecanus onocrotalus*
Circus cyaneus	*Circaetus gallicus*	*Neophron percnopterus*	*Anser albifrons*	*Ixobrychus minutus*
Accipiter gentilis	*Circus cyaneus*	*Circaetus gallicus*	*Anser anser*	*Nycticorax nycticorax*
Accipiter nisus	*Circus macrourus*	*Circus cyaneus*	*Pernis apivorus*	*Ardeola ralloides*
Buteo buteo	*Circus pygargus*	*Circus macrourus*	*Milvus migrans*	*Egretta garzetta*
Buteo rufinus	*Accipiter gentilis*	*Circus pygargus*	*Circaetus gallicus*	*Ardea alba*
Buteo lagopus	*Accipiter nisus*	*Accipiter gentilis*	*Circus aeruginosus*	*Ardea cinerea*
Clanga pomarina	*Buteo buteo*	*Accipiter nisus*	*Circus cyaneus*	*Ardea purpurea*
Hiraaetus pennatus	*Buteo rufinus*	*Buteo buteo*	*Circus macrourus*	*Ciconia nigra*
Falco tinnunculus	*Buteo lagopus*	*Buteo rufinus*	*Circus pygargus*	*Ciconia ciconia*
Falco vespertinus	*Clanga pomarina*	*Buteo lagopus*	*Accipiter nisus*	*Plegadis falcinelles*
Falco columbarius	*Hiraaetus pennatus*	*Clanga pomarina*	*Accipiter brevipes*	*Platalea leucorodia*
Falco subbuteo	*Falco tinnunculus*	*Hiraaetus pennatus*	*Buteo buteo*	*Cygnus olor*
Coturnix coturnix	*Falco vespertinus*	*Falco tinnunculus*	*Buteo rufinus*	*Cygnus cygnus*
Columba palumbus	*Falco columbarius*	*Falco vespertinus*	*Buteo lagopus*	*Anser albifrons*
Streptopelia decaocto	*Falco subbuteo*	*Falco columbarius*	*Clanga pomarina*	*Anser erythropus*
Streptopelia turtur	*Falco peregrinus*	*Falco subbuteo*	*Hiraaetus pennatus*	*Anser anser*
Cuculus canorus	*Actitis hipoleucos*	*Falco peregrinus*	*Falco tinnunculus*	*Branta ruficollis*
Athene noctua	*Streptopelia decaocto*	*Actitis hipoleucos*	*Falco vespertinus*	*Tadorna ferruginea*
	Cuculus canorus	*Tringa glareola*	*Falco columbarius*	*Tadorna tadorna*
	Merops apiaster	*Streptopelia decaocto*	*Falco subbuteo*	*Mareca penelope*
	Upupa epops		*Falco peregrinus*	*Mareca strepera*
				Anas crecca

Strix aluco	*Dendrocopos syriacus*	*Cuculus canorus*	*Coturnix coturnix*	*Anas platyrhynchos*
Asio otus	*Galerida cristata*	*Merops apiaster*	*Phasianus colchius*	*Anas acuta*
Caprimulgus europaeus	*Alauda arvensis*	*Upupa epops*	*Burhinus oedicnemus*	*Spatula querquedula*
Apus apus	*Hirundo rustica*	*Dendrocopos syriacus*	*Vanellus vanellus*	*Spatula clypeata*
Merops apiaster	*Anthus campestris*	*Galerida cristata*	*Phylomachus pugnax*	*Netta rufina*
Coracias garrulus	*Motacilla flava*	*Alauda arvensis*	*Gallinago gallinago*	*Aythya ferina*
Upupa epops	*Troglodytes troglodytes*	*Hirundo rustica*	*Tringa glareola*	*Aythya nyroca*
Picus canus	*Prunella modularis*	*Anthus campestris*	*Actitis hipoleucos*	*Aythya fuligula*
Dryocopus martius	*Erithacus rubecula*	*Motacilla flava*	*Chroicocephalus ridibundus*	*Mergelus albellus*
Dendrocopos major	*Luscinia megarhynchos*	*Troglodytes troglodytes*	*Larus michaelis*	*Pernis apivorus*
Dendrocopos syriacus	*Phoenicurus phoenicurus*	*Prunella modularis*	*Streptopelia decaocto*	*Milvus migrans*
Leiopicus medius	*Oenanthe isabellina*	*Erithacus rubecula*	*Cuculus canorus*	*Haliaeetus albicilla*
Dryobates minor	*Oenanthe oenanthe*	*Luscinia megarhynchos*	*Merops apiaster*	*Circaetus gallicus*
Galerida cristata	*Turdus merula*	*Phoenicurus phoenicurus*	*Upupa epops*	*Circus aeruginosus*
Lullula arborea	*Turdus pilaris*	*Oenanthe isabellina*	*Galerida cristata*	*Circus cyaneus*
Alauda arvensis	*Turdus philomelos*	*Oenanthe oenanthe*	*Alauda arvensis*	*Circus macrourus*
Hirundo rustica	*Sylvia curruca*	*Turdus merula*	*Hirundo rustica*	*Circus pygargus*
Anthus campestris	*Sylvia atricapilla*	*Turdus pilaris*	*Delichon urbicum*	*Accipiter nisus*
Motacilla flava	*Phylloscopus sibilatrix*	*Turdus philomelos*	*Anthus campestris*	*Buteo buteo*
Motacilla cinerea	*Phylloscopus collybita*	*Sylvia curruca*	*Motacilla flava*	*Buteo rufinus*
Motacilla alba	*Muscicapa striata*	*Sylvia atricapilla*	*Motacilla alba*	*Buteo lagopus*
Troglodytes troglodytes	*Ficedula hypoleuca*	*Phylloscopus sibilatrix*	*Troglodytes troglodytes*	*Clanga pomarina*
Erithacus rubecula	*Parus major*	*Phylloscopus collybita*	*Luscinia megarhynchos*	*Hiraaetus pennatus*
Luscinia megarhynchos	*Oriolus oriolus*	*Muscicapa striata*	*Phoenicurus phoenicurus*	*Falco tinnunculus*
Phoenicurus phoenicurus	*Lanius collurio*	*Ficedula hypoleuca*	*Oenanthe isabellina*	*Falco vespertinus*
Oenanthe oenanthe	*Pica pica*	*Parus major*	*Oenanthe oenanthe*	*Falco columbarius*
Turdus merula	*Corvus monedula*	*Oriolus oriolus*	*Turdus merula*	*Falco subbuteo*
Turdus pilaris	*Corvus frugilegus*	*Lanius collurio*	*Turdus philomelos*	*Falco peregrinus*
Turdus philomelos	*Corvus corone cornix*	*Pica pica*	*Turdus iliacus*	*Perdix perdix*
Turdus iliacus	*Sturnus vulgaris*	*Corvus monedula*	*Locustella luscinioides*	*Coturnix coturnix*
Turdus viscivorus	*Passer domesticus*	*Corvus frugilegus*	*Acrocephalus scripaceus*	*Phasianus colchius*
Iduna pallida	*Passer montanus*	*Corvus corone cornix*	*Acrocephalus arundinaceus*	*Rallus aquaticus*
Hippolais icterina	*Fringilla coelebs*	*Sturnus vulgaris*	*Sylvia curruca*	*Gallinula chloropus*
Sylvia nisoria	*Fringilla montifringilla*	*Passer domesticus*	*Sylvia atricapilla*	*Fulica atra*
Sylvia curruca	*Chloris chloris*	*Passer montanus*	*Phylloscopus collybita*	*Himantopus himantopus*
Sylvia communis	*Carduelis carduelis*	*Fringilla coelebs*	*Muscicapa striata*	*Recurvirostra avosetta*
Sylvia atricapilla	*Carduelis spinus*	*Fringilla montifringilla*	*Ficedula parva*	*Burhinus oedicnemus*
Phylloscopus sibilatrix	*Linaria cannabina*	*Chloris chloris*	*Ficedula hypoleuca*	*Charadrius dubius*
Phylloscopus collybita	*Emberiza hortulana*	*Carduelis carduelis*		*Charadrius alexandrinus*
Phylloscopus trochilus		*Carduelis spinus*		*Vanellus vanellus*
Regulus regulus				*Calidris minuta*
Muscicapa striata				*Calidris ferruginea*
Ficedula parva				*Calidris alpina*
				Phylomachus pugnax
				Gallinago gallinago
				Limosa limosa
				Numenius arquata
				Tringa erythropus
				Tringa totanus
				Tringa stagnatilis
				Tringa nebularia
				Tringa ochropus
				Tringa glareola
				Actitis hipoleucos

Ficedula albicollis *Ficedula hypoleuca* *Cyanistes caeruleus* *Parus major* *Oriolus oriolus* *Lanius collurio* *Garrulus glandarius* *Pica pica* *Corvus monedula* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Passer domesticus* *Passer montanus* *Fringilla coelebs* *Fringilla montifringilla* *Chloris chloris* *Carduelis carduelis* *Carduelis spinus* *Linaria cannabina* *Pyrrhula pyrrhula* *Coccothraustes coccothraustes* *Emberiza citrinella* *Emberiza hortulana* *Emberiza calandra*	*Emberiza melanocephala* *Emberiza calandra*	*Linaria cannabina* *Emberiza hortulana* *Emberiza melanocephala* *Emberiza calandra*	*Panurus biarmicus* *Cyanistes caeruleus* *Parus major* *Oriolus oriolus* *Lanius collurio* *Pica pica* *Corvus monedula* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Passer domesticus* *Passer montanus* *Fringilla coelebs* *Fringilla montifringilla* *Chloris chloris* *Carduelis carduelis* *Linaria cannabina* *Emberiza hortulana* *Emberiza schoeniclus* *Emberiza melanocephala* *Emberiza calandra*	*Hydrocoleus minutus* *Larus ridibundus* *Larus canus* *Larus chachinans* *Larus michaelis* *Sterna hirundo* *Chlidonias hybrida* *Chlidonias niger* *Columba palumbus* *Streptopelia turtur* *Cuculus canorus* *Strix aluco* *Asio otus* *Caprimulgus europaeus* *Alcedo atthis* *Merops apiaster* *Upupa epops* *Dryobates minor* *Melanocorypha calandra* *Calandrella brachydactyla* *Galerida cristata* *Lullula arborea* *Alauda arvensis* *Riparia riparia* *Hirundo rustica* *Delichon urbicum* *Anthus campestris* *Anthus trivialis* *Motacilla flava* *Motacilla alba* *Troglodytes troglodytes* *Erithacus rubecula* *Luscinia megarhynchos* *Phoenicurus ochruros* *Phoenicurus phoenicurus* *Saxicola rubetra* *Saxicola rubicola* *Oenanthe isabellina* *Oenanthe oenanthe* *Turdus merula* *Turdus pilaris* *Turdus philomelos* *Turdus iliacus* *Turdus viscivorus* *Locustella luscinioides* *Acrocephalus palustris* *Acrocephalus scripaceus*

				Acrocephalus arundinaceus *Hippolais icterina* *Sylvia nisoria* *Sylvia curruca* *Sylvia communis* *Sylvia atricapilla* *Phylloscopus sibilatrix* *Phylloscopus collybita* *Phylloscopus trochilus* *Regulus regulus* *Muscicapa striata* *Ficedula parva* *Ficedula hypoleuca* *Panurus biarmicus* *Aegithalos caudatus* *Cyanistes caeruleus* *Parus major* *Oriolus oriolus* *Lanius collurio* *Lanius minor* *Garrulus glandarius* *Pica pica* *Corvus monedula* *Corvus frugilegus* *Corvus corone cornix* *Sturnus vulgaris* *Passer domesticus* *Passer montanus* *Fringilla coelebs* *Fringilla montifringilla* *Chloris chloris* *Carduelis carduelis* *Carduelis spinus* *Linaria cannabina* *Emberiza citrinella* *Emberiza hortulana* *Emberiza schoeniclus* *Emberiza melanocephala* *Emberiza calandra*
91	**66**	**68**	**84**	**166**

Conclusions

Within the studied rivers there were identified so far: six habitats of community importance (1530*, 3270, 91M0, 91Y0, 92A0, 92D0), divided into nine subtypes (15.A211, 15.A21275, 24.52, 41.76831, 41.76833, 41.2C2, 41.2C22, 44.1621, 44.814112). To these it can be added eight habitat subtypes with no community importance (31.872, 37.24, 37.2422, 37.2424, 53.1111, 53.132, 53.143 and 53.4).

The highest habitat diversity was observed within Cerna and Peceneaga rivers, with nine plant communities (Photo 30), followed by Topolog (eight plant communities) and Valea Roşţilor (six plant communities) the lowest number of habitats/ coenotaxa being recorded within Luncaviţa (four plant communities) and Jijila rivers (four plant communities).

Photo 30. Cerna and Peceneaga rivers. The highest habitat diversity
Foto 30. Râurile Cerna și Peceneaga. Cea mai ridicată diversitate de habitate

The highest species richness per habitat was recorded within the 1530* habitat/ 15.A21275 subtype (*Trifolio fragifero-Cynodontetum*) – 53 species (Topolog, maximum species/ river: 47 species, Photo 31), followed, in decreasing order, by 91Y0/ 41.2C22 subtype – 46 species (Luncaviţa, 29 species), 53.1111 subtype – 40 species (Peceneaga, 16 species), 37.24 subtype – 32 species (Peceneaga, 13 species), 3270/ 24.52 subtype – 28 species (Topolog, 18 species), 37.2424 subtype – 22 species (Peceneaga, 13 species), 91M0/ 41.76833 (Peceneaga, 18 species). A lower species richness per habitat is characteristic for the habitats: 53.143 subtype – 15 species (Greci, 11 species), 53.4 subtype – 15 species (Peceneaga, 9 species), 91Y0/ 41.2C2 subtype (Topolog, 14 species), 31.872 subtype (Cerna, 14 species), 53.132 subtype – 13 species (Peceneaga, 10 species), 92D0/ 44.814112 subtype (Cerna, 12 species), 1530*/ 15.A211 subtype (Cerna, 11 species), 92A0/ 44.1621 subtype – 10 species (Valea Roşţilor, 9 species), 91M0/ 41.76831 subtype (Peceneaga, 9 species), 37.2424 subtype (Topolog, 7 species).

In general there are no threatened species along the studied rivers. Still the highest number of threatened species (two species) was recorded within the Peceneaga River – respectively within the habitats 91M0/ 41.76833 subtype and 91Y0/ 41.2C22 subtype (one species) and in the 53.132 habitat (one species), followed by Cerna River, within the 92D0 habitat (one species), Luncaviţa in the 91Y0/ 41.2C22 subtype (one species), Topolog in the 91Y0/ 41.2C22 subtype (one species).

Photo 31. Topolog River. The highest species per habitat diversity
Foto 31. Râul Topolog. Cea mai ridicată diversitate de specii per habitat

Globally, Topolog River could be considered the most diverse river (Photo 32) from the plant species and habitat point of view, as it has by far the highest number of species per habitat, even though it is slightly over passed by Peceneaga River which has an extra plant community and a threatened species.

Photo 32. Topolog River. The most diverse river
Foto 32. Râul Topolog. Cel mai divers râu

Thus, Peceneaga could be the second important river from the overall flora/ habitat point of view, while Jijila River (Photo 33) would be the less diverse, with only four habitats/ plant communities, with an average of 12 species/ habitat.

Photo 33. Jijila River. The lowest species per habitat diversity
Foto 33. Râul Jijila. Cea mai scăzută diversitate de specii per habitat

Most of the rivers are mainly low disturbed, except Luncaviţa (low-high) and Topolog (low-medium). Most of the habitats/ plant communities are low disturbed, followed by undisturbed (41.2C2; 53.143), medium disturbed (31.872, 53.4), or highly disturbed (3270, 41.2C22) habitat subtypes.

Taking into account the data presented so far, these seven rivers from Dobrogea that flow into the Danube River, have an important conservation value, as they contain habitats of community importance and a number of threatened plant species. Their conservation is also required as they are natural ecological corridors that link different Natura 2000 sites from the western part of Northern and Central Dobrogean Plateau.

Regarding the avifauna, along the seven studied rivers, the highest number of bird species was identified along the Topolog River, in the discharge area, respectively 166 species, followed closely by the Cerna River, which has at its outflow a number of 108 species of birds. The smallest number of bird species identified on an observation point was recorded along the Cerna River, 26 species of birds, followed by the Greci River with 31 species. Regarding the classification of bird species on the major habitat types along the seven studied rivers, it can be seen that the bird species characteristic of terrestrial habitats predominate, followed by aquatic and amphibious ones.

In the intermediate monitoring points (monitoring points 2 or 3) an avifauna characteristic of steppe, silvo-steppe and anthropogenic areas was identified. Most of their species and populations were identified downstream of the seven rivers, respectively in the points that correspond to the discharge area.

Compared to the phenological classification of the identified avifauna, it can be observed that the migratory bird species predominate, followed by the winter guests, the sedentary (resident) ones, the passage birds and lastly the accidental or very rare ones.

Regarding the number of bird species that nest along the route and near the monitoring points, we find that the highest number is recorded in the points Ce3 (Cerna River) – 71 species, followed by the monitoring point To5 (Topolog River) – 63 nesting species. The lowest number of nesting species is identified in Gr1 (Greci River).

Photos by: Mihai Petrescu, Viorel Cuzic, Cristina Dinu

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