

THE MUREŞ CATCHMENT AREA NATURAL PARK

Libus András †

Abstract

The paper presents a short protection and research history of the Mureş Catchment Area Natural Park. The Park is localized downsternam of Arad town up to the Hungarian border. The characteristics ecosystems are steppe-type grasslands, meadow forests, swamps and marshes in different stages of eutrofication. Several species occuring here are listed in the appendix of the Bern Convention and the area is one of the Important Bird Areas (IBA) in Romania. The authors' conclusion is that in order to maintain biodiversity, concrete measures of protection and conservation are necessary in the Mureş catchment area.

Keywords: Mureş catchment area, biodiversity, protection

Short history of the protection

The first approach to declare it a reservation was made in the year 1972, at the symposiums organized at Pecica and Arad by I. Moldovan and A. Ardelean.

In 1982, by the decision of the County Council, Lake Bezdin (24 ha) and Prudul Mare (16 ha) were declared Natural Reserves. In 1991 the reserve was increased to 91 ha. Paralelly, in Timiş County the Cenad Forest (314 ha) was put under protection. The foundation of the complex reserve "The Inferior Mureş Catchment Area" started in the year 1998 on the basis of the documentation of the Arad Environmental Protection Agency. The idea of the creation of the Mureş Catchment Area Natural Park was continued by the Forest Management of Arad, with the contribution of Head Manager Al. Priv and with the Phare CBC Project in the year 2001.

The project includes four components:

- the protecion of the area
- the creation of the visiting centre
- the monitorization of the ecosystems
- the promotion of tourism.

Short history of the research

From a scientific point of view, the area has been the object of a few studies, made by L. Simonkai, I. Pop, A. Ardelean, C. Drăgulescu, I. Hodişan, Gh. Groza, Fl. Vulpe. The lepidopter fauna has been studied by Fr. König. During the last decades ornithological observations have been made by D. Lintia, E. Nadra, A. Sárkány, Z. Szombath et al., A. Libus. An international research team began a complex study on the river Mureş in the year 1991.

Localization

The boundaries of the Inferior Mureş Catchment Area are: downstream the town of Arad up to the border with Hungary (approx. 75 river km). On its left and right banks it is bordered by the high loess terraces (major riverbed). The dykes built on the occasion of the regularization of the river border both banks. The holm area (minor riverbed) is 1-5 km broad.

The description of the area

Downstream Arad the Mureş River has the characteristics of an inferior river course, forming numerous meanders and islands. Downstream Arad there lie meadow forests on a surface of 5819 ha, being under the administration of the Forest Department of Ceala. Beginning from 54 km downstream, the forest vegetation continues only on the left bank in the form of protection curtain (breadth: 50-100 m), up to the locality Cenad (Timiş county).

Characteristic ecosystems

The steppe-type grasslands on loess, partly degraded, can be found on the steep slopes of the high terrace, on small surfaces. The indicator floristic elements are: *Festuca rupicola*, *Salvia austriaca* and *Adonis vernalis*. The meadow forests of the area are mainly natural riverside coppices, occupying about 15% of the total surface. Coppices with willows and poplars prevail, occupying the lower meadow areas, which are often flooded. Characteristic species are: *Salix alba*, *Populus alba* and *Populus nigra*. Lians are frequent: *Vitis silvestris*, *Clematis vitalba*, *Humulus lupulus*. In the recent years the adventitious species *Echinocystis lobata* has been invading. The coppices with oak-ashtree-elm tree in a natural state lie on smaller surfaces, in the higher meadow. Species of trees: *Quercus robur*, *Fraxinus angustifolia*, *Ulmus laevis*, *Acer campestre*. In the bush-layer the species *Cornus sanguineus*, *Euonymus europaeus* and *Crataegus monogyna* prevail. The grass layer is rich in the species: *Scilla bifolia*, *Anemone ranunculoides*, *Alliaria petiolata*, *Corydalis cava*, *Stachys*

silvestris. Two species of orchids have been found: *Platanthera bifolia* and *Epipactis helleborine*. In the last few years small lots of oak-groves of saltings were identified (*Galatello-Quercetum roboris*) in whose clearings we can find the association *Peucedano-Asteretum sedifolii*, characteristic for soils in the course of salinization.

The wet zones from the Mureş catchment area lie on remarkably large surfaces. Mainly in the old deserted riverbeds we can find paludous vegetation, as well as along the dykes, where in the holes the water remaining after floods persists. These are swamps and marshes in different stages of eutrofication, with the prevailing species: *Phragmites australis*, *Typha angustifolia*; *Schoenoplectus lacustris*. Lake Bezdin is much more known, where water lilies can be found (*Nymphaea alba*, *Nuphar luteum*) as well as species like *Salvinia natans*, *Utricularia sp.*, *Sagittaria sagittifolia*, *Senecio paludosus*.

The forests in the minor riverbed are bordered by mesophyle meadows. From the fauna of the area we should mention the species that are present in the 3rd appendix of the Law nr. 236 as to protected natural areas, as well as in the Bern convention:

Mammals: 4 species

Birds: 72 species

Reptiles: 1 species

Amphibians: 6 species

Fish: 7 species.

Owing to the varied biotops and to the fact that the Mureş Valley is crossed by important routes of birds of passage, the Mureş Catchment Area is one of the Important Birdfaunistic Areas (IBA) of Europe. There are 44 IBAs in the country. 210 species of birds have been identified, among which about 100 species are breeding birds.

According to the IBA criteria, from the endangered species of the world 3 species are present in the area, which nested here a few decades ago: *Haliaeetus albicilla* (white-tailed eagle), *Aythya nyroca* (ferruginous duck), *Crex crex* (corncrake). In a natural park it would be possible to stimulate their re-nesting.

From among the species endangered in Europe, there are 53 species to be found here, from which we mention a few nesting species: *Botaurus stellaris* (bittern), *Nycticorax nycticorax* (night heron), *Egretta garzetta* (little egret), *Pernis apivorus* (honey buzzard), *Milvus migrans* (black kite), *Aquila pomarina* (lesser spotted eagle), *Falco vespertinus* (red-footed falcon), *Coracias garrulus* (roller), *Sylvia nisoria* (barred warbler).

Conclusions

In order to maintain biodiversity, concrete measures of protection and conservation are necessary in the Mureş catchment area.

References

1. Monografia Simonkai - Flora comitatus et urbis Arad, 1893
2. D. Linția - Pasarile din R.P.R., vol. III., București, 1955
3. E. Nadra - Catalogul sistematic al colecției ornitologice al Muzeului Banatului, Timisoara, 1972
4. V. Ciocchia - Pasarile clocitoare din Romania, Ed. st. 1992
5. I. Hamar - A. Sarkany - Kiss - The Mureș River Valley, Szolnok, Tg. Mureș, 1995
7. A. Ardelean, Fl. Dumescu, M. Covic - Rezervatiile naturale si monumentele naturii din judetul Arad, 2000