

PRELIMINARY OBSERVATIONS REGARDING THE HERPETOLOGICAL FAUNA FROM CORCOVA (MEHEDIŢI COUNTY)

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ABSTRACT

The paper presents preliminary data on amphibian and reptile fauna from Corcova (Mehedinţi county). The commune, with an area of 75.32 km², is located in the south-west of Romania (north-east of the county), on the right bank of the Motru River. Hills prevail in terms of landforms. The study aimed to update the herpetological database with new information resulting from research conducted between March and October 2022. The preliminary list includes: 10 species of amphibians (Urodela - 3 species: *Salamandra salamandra*, *Triturus cristatus*, *Lissotriton vulgaris* and Anura - 7 species: *Bombina bombina*, *Hyla orientalis*, *Pelobates fuscus*, *Bufo viridis*, *Rana dalmatina*, *Pelophylax kl. esculentus*, *P. ridibundus*) and 11 species of reptiles (2 species of turtles: *Testudo hermanni*, *Emys orbicularis*; 4 species of lizards: *Lacerta agilis*, *L. viridis*, *Podarcis tauricus*, *Anguis fragilis*; 5 snake species: *Dolichophis caspius*, *Coronella austriaca*, *Zamenis longissimus*, *Natrix natrix*, *N. tessellata*). The variety of habitats, the temperate-continental climate with sub-Mediterranean influences, the trophic resource have influenced the diversity of herpetofauna in the area. The highlighted species of amphibians and reptiles are listed on different national protectionist lists (ordinances, laws, etc.). Species that are subject to special habitat conservation measures have drawn our attention: *Testudo hermanni*, *Emys orbicularis*, *Triturus cristatus*, *Bombina bombina*, *Pelobates fuscus* (Annex 3 to OUG 57/2007).

Key words: amphibians, reptiles, habitat, diversity, Corcova - Mehedinţi

INTRODUCTION

Reptiles and amphibians are a group of vertebrates that plays an important role in biodiversity. On the herpetological studies, approached taxonomically, biologically, ethologically, geographically, genetically, palaeontologically etc. from Romania, we have found out from 3 synthesis works drawn up, after 1990, by Cogălniceanu & Andrei (1992), Andrei & Török (1997), Török (2011). By 2011, 1564 published works have been cited. Many of them address the spread and dynamics of amphibian and reptile species from different regions of Romania. However, many areas of our country have remained herpetologically unresearched. Among them is the settlement of Corcova in Mehedinţi County.

The commune has 13 villages: Breţa, Cernaia, Corcova (the commune's residence), Cordon, Croica, Gârbovăţu de Jos, Imoasa, Jirov, Măru Roşu, Pârvuleşti,

Puşcaşu, Stejaru şi Vlădăşeşti (Figure 1). It is located in the north-eastern part of Mehedinţi county and in the western part of Oltenia. It is located at a distance of about 13 km from the city of Strehăia and 55 km from Drobeta Turnu Severin (municipality, county seat), on the national road DN 67. Its geographical coordinates are: 44°41'02"N 23°03'40"E (https://ro.wikipedia.org/wiki/Comuna_Corcova,_Mehedin%C8%9Bi).

The commune, limited to the east by the Motru River, has a total area of about 75.32² (<https://ro.db-city.com/Rom%C3%A2nia--Jude%C8%9Bul-Mehedin%C8%9Bi--Corcova#geo>) and is located at an altitude of about 167 m above sea level (https://ro.wikipedia.org/wiki/Corcova,_Mehedin%C8%9Bi). The relief of the commune is hilly. The altitude of the hills is small, about 280-300 m; the maximum is about 360 m.



Figure 1. Map of the Corcova Commune (<https://orasultau.ro/harta/corcova-o>) (processed) and location of the commune on the map of the country (<https://ro.wikipedia.org/wiki/Corcova>, [Mehedin% C8% 99Bi](https://ro.wikipedia.org/wiki/Corcova))

The territory of the village is crossed by the Coșuștea river that flows into the Motru River; the flow level is 137m above sea level (https://ro.wikipedia.org/wiki/R%C3%A2ul_Co%C8%99u%C8%99tea).

Groundwater appears in the form of springs, so that the respective areas stay moist for a long time. Some of the springs are captured and arranged in the form of fountains (<https://www.comunacorcova.ro/geografia/>). The climate is temperate continental, with sub-Mediterranean influences (Cucu & Popova-Cucu, 1980). Summers are warm with cool nights due to forests, and winters are milder due to the presence of humid and warm air masses of Mediterranean origin. The average precipitations per year are about 600 mm. – 700 mm. (https://www.comuna_corcova.ro/geografia/)

The vegetation and flora of the commune is very diverse, influenced by climate and soil. On the hills, the forests of oak

predominate consisting of submesophilous - thermophil species (*Quercus cerris*, *Q. frainetto*, *Q. pedunculiflora*, *Q. pubescens*, etc). There are also species of *Carpinus orientalis*, *Fraxinus ornus*, *Acer tataricum*, *Daphne mezereum*. The shrub layer is represented by *Crataegus monogyna*, *Prunus spinosa*, *Viburnum lantana*, *Ligustrum vulgare*, *Euonymus europaeus*, *Sambucus nigra*, *Corylus avellana*, *Cornus mas*, *Rosa canina* etc. Cultivated land, vineyards, meadows and pastures are interspersed between the forests. Among the meadow plants we mention: *Festuca valesiaca*, *Agropyron cristatum*, *Stipa capillata*, *Botriochloa ischaemum*, *Koeleria macrantha*, *Melica ciliata*, *Medicago falcata*, *Astragalus onobrychis*, *A. ponticus*, *Coronilla varia*, *Achillea setacea*, *Seseli tortuosum*, *Asperula cynanchica*, *Artemisia austriaca*, *Poa angustifolia*, *Alyssum desertorum*, *Potentilla arenaria*,

Medicago minima, *Trifolium arvense*, *Arenaria serpyllifolia*, *Scleranthus annuus*, *Taraxacum serotinum* etc. The riverside vegetation on the Motru valley is represented by species of poplars and willows (*Populus alba*, *P. nigra*, *P. canescens*, *Salix alba*, *S. fragilis*), common alder (*Alnus glutinosa*) narrow-leaved ash (*Fraxinus angustifolia*). Next to the shrubs (noted above) we mention species of lianas: *Clematis vitalba*, *Humulus lupulus*, etc. The layer of grasses and undershrubs is developed and dominated by *Rubus caesius*, *Galium aparine*, etc. (Donita et al., 2005). Aquatic vegetation is well represented by numerous hydrophilous plants: *Lemna minor*, *Potamogeton natans*, *Marsilea quadrifolia* *Ceratophyllum* sp., etc. and hygrophilous plants: *Carex riparia*, *Potentilla reptans*, *Lythrum salicaria*, *Centaurea micranthos*, *Cicuta virosa*, *Mentha aquatica*, etc. It is also worth mentioning the crop plants (cereals, vegetables, etc) on the arable land, which occupies a large area about 2518 ha (<https://www.comunacorcova.ro/agricultura/>).

From the Mehedinți County, we have a lot of information about herpetofauna through studies conducted by: Fuhn, 1960, 1975; Fuhn & Vancea, 1961; Cruce, 1971a, b, 1978; Cruce & Răducan 1975, 1976; Șerban, 1972, 1975; Grossu & Popescu 1975; Bazilescu et al., 1980; Stroescu, 1982; Andrei, 1993; Lambert & Cogălniceanu, 1999; Cogălniceanu et al., 2000; Iftime, 2005a, Iftime A & al., 2008; Covaciu-Marcov et al., 2007b, 2009a; Rozyłowicz, 2008, Rozyłowicz & Popescu, 2013 etc. Most studies focus on the south-west and west part of the county. Research in recent years has focused more on protected areas: The Iron Gates National Park, the Domogled-Valea Cernei National Park, the Mehedinți Plateau Geopark. Recently, Iftime & Iftime (2016) also address the herpetofauna in the north-east of the county. However, there is no information

in literature about the herpetofauna of Corcova commune. As such, the main purpose of this paper is to draw up a preliminary fauna list on the amphibian and reptile species present in the various habitats of Corcova, in order to complete the herpetological database with new information on the location of these species in the commune. This list represents the starting point for the elaboration of new studies, which will follow the behaviour, dynamics and changes of the faunistic community, caused by the anthropic factor and the measures that can be taken to protect them.

MATERIAL AND METHODS

For the study of herpetofauna, the classical methods were used, applicable to all groups of amphibians and reptiles: the method of transections (Cogălniceanu, 1997), direct observation collection, photography, etc.

The observations took place between March and October 2022. The trips were made mainly during the day, along aquatic habitats or in dry habitats corresponding to their living environments. They were performed both at day and evening in the case of species with active life at night. Monthly, 3-4 days were required for the entire research area. Most species were identified directly with no need to capture them. In some cases, the capture of specimens was carried out. The collection of terrestrial species was carried out directly by hand. The net was used in the case of aquatic amphibians. After collection and recording the main morphological characteristics, they were released into their living environment. Some of the highlighted species were filmed and photographed in their habitats. Canon SX40 HS and Nikon Z50 cameras were used. The field investigation and information from the locals were useful in completing the data on the herpetofauna of the commune. In the identification and analysis of species, the specialized

literature (Fuhn, 1960; Fuhn & Vancea, 1961; Török et al., 2013 etc.) and guide for determining (Cogălniceanu D. et al., 2000; Speybroeck J. et al., 2016 etc.) were used. Finally, a list was drawn up with the location of the species in the villages of the commune. The photos inserted in the work are original.

RESULTS AND DISCUSSIONS

Results

We present the list of identified amphibian and reptile species with data on observation sites. The taxonomy of species and nomenclature was carried out according to the list of species of European herpetofauna (Speybroeck et al., 2020).

Class AMPHIBIA Linnaeus, 1758

Order Caudata Scopoli, 1777 /or

Urodela Duméril, 1805

Family Salamandridae Goldfuss, 1820

1. *Salamandra salamandra* (Linnaeus, 1758)

The fire salamander (Fig. 4), a typical terrestrial, twilight and nocturnal species (Cogălniceanu et al., 2000) was reported in the area of the Coșuștea river and the wet area of deciduous forests on hills. It is a rare species for the commune.

2. *Triturus cristatus* (Laurenti, 1768)

The great crested newt (Fig. 2) was observed in deciduous forests on the hills, in the ponds rich in vegetation; also on land in the wet grasses nearby waters in the villages of Croica and Măru Roșu.

3. *Lissotriton vulgaris* (Linnaeus, 1758)

The smooth newt (Fig. 3) is well represented in the area under investigation. Small populations found in the ponds of the wooded area on the hills.

Order Anura Duméril, 1805

Family Bombinatoridae Gray, 1825

4. *Bombina bombina* (Linnaeus, 1761)

The fire-bellied toad (Fig. 6) is an aquatic and diurnal species, being signalled in wetlands on agricultural land: the spring area, the water catchment areas, the channels along the agricultural field, brooks, temporary ponds, even puddles.

Family Pelobatidae Bonaparte, 1850

5. *Pelobates fuscus* (Laurenti, 1768)

The common spadefoot toad is a digging species with a nocturnal and underground life (Fuhn, 1960). In the evening, individuals were observed on the loose lands of the local gardens. It is also reported at the edge of the deciduous forest in the vicinity of the houses. Rarely observed during the day.

Family Bufonidae Gray, 1825

6. *Bufo viridis* / *Bufo viridis* (Laurenti, 1768)

The green toad (Fig. 5), terrestrial species, nocturnal, with diurnal activity in juvenile stages (Cogălniceanu et al., 2000), was identified in all the villages of the commune. Noted especially in the evening, but also at day in cloudy weather in different habitats: the courtyards and gardens of the locals, in vineyards and orchards, the ditches in front of the houses, water channels, the ponds on the hills, streams, meadows, the grassy area near the waters. It is an anthropophilic species (Török et al., 2013).

Family Hylidae Rafinesque, 1815

7. *Hyla orientalis* (Bedriaga, 1890)

The eastern tree frog (Fig. 7) has been frequently found in deciduous forests on hills; in areas with bushes and shrubs near water, as well as in vineyards in households. These frogs were also observed beside the ponds and streams on the agricultural lands near forest groups.

Family Ranidae Batsch, 1796

8. *Rana dalmatina* Fitzinger in Bonaparte, 1838 - Agile Frog (Fig. 8)

They were observed in deciduous forests, in the area of bushes, under the foliage. They go down from the hills and into the gardens of the locals.

9. *Pelophylax ridibundus* / *Rana ridibunda* (Pallas, 1771)

The marsh frog is the most common and abundant species of amphibians observed in the settlement, which populates a variety of aquatic habitats: permanent or temporary standing waters (ponds, water

accumulated in ditches and channels), flowing waters (Motru and Coșuștea rivers, streams, springs), etc.

10. *Pelophylax kl. esculentus* / *Rana esculenta* (Linnaeus, 1758)

The edible frog is as common as the previous one, found in the same habitats.

Class Reptilia Laurenti, 1768

Order Testudines Linnaeus, 1758

Family Testudinidae Batsch, 1788

1. *Testudo hermanni* Gmelin, 1789

The Hermann's tortoise (Fig. 9) is very well represented in the commune of Corcova, being found in the oak forests on the hills, in open places in forests (the forest glades, meadows), forest edges, in areas with shrubs vegetation. The lowest altitude at which it was seen is about 140 m (village Croica), the highest altitude about 300-320 m – the hills of Pârvuești and Corcova. Locals have also reported the species. It enters the vineyards, gardens and orchards of the inhabitants in search of food. In the villages of Cernaia, Croica, Măru Roșu, it was observed at the earliest in the first decade of April.

Family Emydidae Rafinesque, 1815

2. *Emys orbicularis* (Linnaeus, 1758)

The European pond turtle (Fig. 10) has been reported in permanent ponds, canals, streams at the edge of the agricultural field; also near the Motru river. A small but permanent population is found in the wet area of the agricultural land of Croica. It is less represented than the land turtle.

Order Squamata Oppel, 1811

Suborder Sauria McCartney, 1802

Family Lacertidae Batsch, 1788

3. *Lacerta agilis* Linnaeus, 1758

The sand lizard (Fig. 12) has been noted in various biotopes: in deciduous forests glades, bushes, forest edges, meadows, the edge of agricultural lands, in shrubs, in foliage; also near water courses. It is a frequent species in the area under investigation.

4. *Lacerta viridis* (Laurenti, 1768)

The European green lizard (Fig. 11) is a

common and frequent species for the investigated area, highlighted in all villages, both forested and open habitats, dry areas and wetlands. It was observed in vegetation on the ground as well as on the bark of the trees climbing easily, and in the shrubs that provide them with a good hiding place.

5. *Podarcis tauricus* (Pallas, 1814)

The biotopes in which the Balkan wall lizard (Fig. 13) was observed are given by the deciduous forests on the hills with bushes and xerophilous meadows, the grassy area on the edge of the railway embankments, and of the agricultural lands, in the vegetation near the bushes of *Crataegus monogina*, *Prunus spinosa*, etc.

Family Anguidae Gray, 1825

6. *Anguis fragilis* Linnaeus, 1758

The slow worm (Fig. 14) was observed after the removal of rotting logs from the hills of the villages Corcova, Măru Roșu, Jirov and Vlădășești, and on the edge of the paths and in the vegetation near the Coșuștea river at Corcova. Due to the short period of study we have few data about the presence of this species in other areas of the commune.

Suborder Serpentes Linnaeus, 1758

Family Natricidae Bonaparte, 1840

7. *Natrix natrix* (Linnaeus, 1758)

The grass snake (Fig. 15) is a common species for the local fauna, being the most common of the snakes. It has been identified in all villages in different habitats, both dry and wet. Reported in the local gardens, along the paths, in the deciduous forests on the hills, in the grasses at the edge of the agricultural land, in the wetlands along the waters, on the banks of the Motru river, etc.

8. *Natrix tessellata* (Laurenti, 1768)

The dice snake was observed along the banks of the Motru river, the grasses at the edge of the agricultural land, in the vegetation of the bushes. It is well represented for the wet area in the area under review.

Family Colubridae Oppel, 1811

9. *Dolichophis caspius* (Gmelin, 1789)

From the information received from the locals (good connoisseurs of the area) it is possible to have this species in open areas on the hills, in the grasses near the cemeteries, in the vineyards on the hills. The large dimensions, the morphological aspect, said by the locals and confirmed by the shown images, led us to the existence of this species in the area.

10. *Zamenis longissimus* (Laurenti, 1768)

The Aesculapian snake has been reported in the forest glades, forest edges, sunny terrain on the hills, in the areas with bushes and shrubs, as well as on the Motru's meadow.

11. *Coronella austriaca* Laurenti, 1768

The smooth snake (Fig. 16), a diurnal species (Fuhn & Vanca, 1961), was noted in forests and forest edges, the edge of paths near vegetation, even in the gardens and yards of the locals.

Discussion:

The diversity of habitats existing in the researched area: terrestrial habitats (oak deciduous forests (Fig. 18), meadows, agricultural lands (Fig. 17), etc), aquatic habitats (springs, streams, rivers (Fig. 19), ponds (Fig. 20), etc), as well as anthropogenic habitats, has led to the existence of a variety of amphibians and reptile fauna. Between March and October 2022, following field research, 10 amphibian species were identified – out of the 19 existing in the country's fauna (Cogălniceanu, et al., 2013a) and 11 reptile species out of the 23 existing in Romania (Cogălniceanu, et al., 2013b) (no subspecies were discussed).

From a systematic point of view, the identified amphibians belong to the order of Anura, being distributed to 5 families: Bombinatoridae - 1 species (*Bombina bombina*), Pelobatidae - 1 species (*Pelobates fuscus*), Hylidae - 1 species (*Hyla orientalis*), Bufonidae - 1 species (*Bufo viridis*), Ranidae - 3 species (*Pelophylax kl. esculentus*, *P. ridibundus*, *Rana dalmatina*) and order of Urodela - Salamandridae family with 3 species:

Salamandra salamandra, *Triturus cristatus* and *Lissotriton vulgaris*. The identified reptiles are distributed in 2 orders and 6 families: Order Testudines - 2 species: *Testudo hermanni* (Fam. Testudinidae), *Emys orbicularis* (Fam. Emydidae); order Squamata - 4 species of lizards: *Lacerta agilis*, *L. viridis*, *Podarcis tauricus* (Fam. Lacertidae), *Anguis fragilis* (Fam. Anguillidae), 5 species of snakes: *Dolichophis caspius*, *Coronella austriaca*, *Zamenis longissimus* (Fam. Colubridae), *Natrix natrix*, *N. tessellata* (Fam. Natricidae).

Regarding amphibians it was found that they are well represented in the fauna of the commune, being ecologically framed in all categories. Thus, aquatic and diurnal species (marsh frog and edible frog, fire-bellied toad, tritons), terrestrial species (fire salamander, green toad, agile frog), underground and digging species (spadefoot toad), arboreal species (eastern tree frog) were encountered.

As for the tritons, the presence of both species is found in the same habitat according to what has been reported in the literature (Fuhn, 1960, Covaciu-Marcov, 2006, 2009b, etc). Thus, the reproduction of both the crested newt and the common newt was recorded in the same aquatic basin: the ponds in the oak forest area of the villages of Croica and Măru Roșu. *Triturus cristatus* is much rarer than *Lissotriton vulgaris*.

Salamandra salamandra, a species found from 200 m altitude - up to the limit of the alpine gap (Cogălniceanu et al., 2000), was also found at lower altitudes; e.g., at about 170 m. on the hills of Croica, Cernaia. This is consistent with other research that reported the species at altitudes below 200 m (Fuhn, 1960; Iftime, 2005a; Covaciu-Marcov et al., 2007a, 2009a, etc.).

Tree frogs are rarely found in the summer. Instead, they are heard in periods of higher nebulosity, before the short and torrential summer rains. Recent research (molecular genetics) on amphibian fauna

has led to the conclusion that the territory of our country is occupied by both *Hyla arborea* - inside the Carpathian arch (https://www.iucnredlist.org/species/824968_38/82495296) and *Hyla orientalis* - outside the Carpathian chain (<https://www.iucnredlist.org/species/82494309/174180490#geographic-range>); Speybroeck et al., 2016). In recent years this has been a major interest among herpetologists in Romania. Arguments are made both for and against. We also align with recent research (Dufresnes et al., 2016, etc.) and as such we note the species as *Hyla orientalis*.

Among the reptiles, the species *Testudo hermanni* is of particular interest, being frequent and common in the investigated area. The population is stable. After reproduction, solitary individuals are distinguished among the foliage of the forests. It is important to note the interesting behaviour of some individuals in terms of reproduction. According to the relevant literature, reproduction takes place especially between May and June (Fuhn & Vancea, 1961). Most commonly, mating occurs between April and May (Cruce & Răducan, 1976). We witnessed mating rituals (nuptial games) in a pair of tortoises in July 2022, on the hills of Croica. These delays in mating are possible among individuals (probably related to food, climatic conditions, etc.) also according to other research (e.g.: Cruce & Răducan, 1976). *Testudo hermanni* is a rare species at national level, so special attention should be paid to the stable populations in this area.

We mention that *Podarcis tauricus* and *Lacerta viridis* were observed in the same habitat (area of shrubs separating agricultural crops). This is consistent with the results of other studies (Cruce, 1971b). Lately, we have been receiving frequent reports from locals about the presence of *Coronella austriaca* and *Natrix natrix* snakes near the homes.

During the investigations we found that some species are very well represented for the studied area, being found in almost all villages. These are: *Lissotriton vulgaris*, *Hyla orientalis*, *Bufotes viridis*, *Pelophylax ridibundus*, *P. kl. esculentus*, *Testudo hermanni*, *Lacerta viridis*, *L. agilis*, *Natrix natrix*. Then there are frequent but less abundant species: *Pelobates fuscus*, *Rana dalmatina*, *Podarcis tauricus*, *Coronella austriaca*, *Natrix tessellata*. Rare species include: *Salamandra salamandra*, *Triturus cristatus* (among amphibians), *Emys orbicularis*, *Anguis fragilis*, *Dolichophis caspius*, *Zamenis longissimus* (among reptiles).

In recent decades, there have been declines in the number of amphibians and reptiles as a result of anthropogenic and climatic impacts. As such, herpetofauna is protected (globally, implicitly and nationally) by numerous directives, conventions, laws, emergency ordinances, red books, etc.

In relation to the Emergency Ordinance no. 57/2007, the amphibian and reptile species observed in Corcova are mentioned in different annexes. Thus:

- *Triturus cristatus*, *Bombina bombina*, *Pelobates fuscus*, *Testudo hermanni* and *Emys orbicularis* - are included in Annex 3 (species of plants and animals whose conservation requires the designation of special conservation areas and special avifaunistic protection areas);

- *Triturus cristatus*, *Bombina bombina*, *Pelobates fuscus*, *Bufotes viridis*, *Rana dalmatina*, *Testudo hermanni* and *Emys orbicularis*, *Lacerta agilis*, *L. viridis*, *Podarcis tauricus*, *Dolichophis caspius*, *Coronella austriaca*, *Zamenis longissimus*, *Natrix tessellata* - are included in Annex 4A (species of Community interest requiring strict protection);

- *Salamandra salamandra*, *Lissotriton vulgaris*, *Anguis fragilis*, *Dolichophis caspius* - are listed in Annex 4B (species of national interest requiring strict protection);

Table 1
Preliminary data on the spread of amphibian and reptile species in the area under study (Corcova- Mehedinți county), between March and October 2022

No	Species / Village	Breța	Cernaia	Corcova	Cordun	Croica	Gârbovățu de Jos	Imoasa	Jirov	Măru Roșu	Pârvuești	Pușcașu	Stejaru	Vlădășești
1.	<i>Salamandra salamandra</i>	x		x		x						x		
2.	<i>Triturus cristatus</i>					x				x				
3.	<i>Lissotriton vulgaris</i>		x	x		x	x	x	x	x				x
4.	<i>Bombina bombina</i>			x		x		x	x	x			x	
5.	<i>Hyla orientalis</i>	x	x	x	x	x	x	x	x	x	x	x	x	x
6.	<i>Pelobates fuscus</i>	x	x	x	x	x			x					x
7.	<i>Bufotes viridis</i>	x	x	x	x	x	x	x	x	x	x	x	x	x
8.	<i>Rana dalmatina</i>		x	x		x				x		x	x	x
9.	<i>Pelophylax kl. esculentus</i>	x	x	x	x	x	x	x	x	x	x	x	x	x
10.	<i>Pelophylax ridibundus</i>	x	x	x	x	x	x	x	x	x	x	x	x	x
11.	<i>Testudo hermanni</i>	x	x	x	x	x	x	x	x	x	x	x	x	x
12.	<i>Emys orbicularis</i>		x			x			x	x				
13.	<i>Lacerta viridis</i>	x	x	x	x	x	x	x	x	x	x	x	x	x
14.	<i>Lacerta agilis</i>	x	x	x	x	x	x	x	x	x	x	x	x	x
15.	<i>Podarcis tauricus</i>	x		x		x				x		x		x
16.	<i>Anguis fragilis</i>			x					x					
17.	<i>Dolichophis caspius?</i>		x							x		x		
18.	<i>Zamenis longissimus</i>								x	x				x
19.	<i>Coronella austriaca</i>		x	x		x	x	x						
20.	<i>Natrix natrix</i>	x	x	x	x	x	x	x	x	x	x	x	x	x
21.	<i>Natrix tessellata</i>		x			x		x	x					

-*Pelophylax kl. esculentus* and *P. ridibundus* are listed in Annex 5A (species of Community interest, whose sampling and exploitation are subject to management measures).

Also, species were highlighted in the investigated area that have a certain threat status at national level (Iftime, 2005b): *Testudo hermanni* - an endangered species; *Salamandra salamandra*, *Triturus cristatus*, *Rana dalmatina*, *Pelobates fuscus*, *Emys orbicularis*, *Anguis fragilis*, *Dolichophis caspius*, *Zamenis longissimus*, *Coronella austriaca* - are vulnerable species, and *Lissotriton vulgaris*, *Bombina bombina*, *Bufotes viridis*, *Podarcis tauricus* and *Natrix tessellata* - are almost threatened species.

Since there are also species on the territory of the locality that are listed on different protection lists, etc., it is necessary for the decision-makers to

establish the most effective protection measures in accordance with the reality on the ground, in order to maintain and protect the biodiversity in the area.

CONCLUSIONS

The results of the study show that the herpetological fauna in the habitats of Corcova commune is ecologically diverse (bringing together arboreal, terrestrial, subterranean, aquatic, semi-aquatic species), some of them adapt to anthropogenic conditions.

Since the data is preliminary, the monitoring of amphibians and reptiles should be continued for a better assessment of: the existing species, the numerical dynamics of species populations, their spatial distribution, intra- and inter-specific relations, the action of disruptive factors on amphibian and reptile populations, etc.



Figure 2. *Triturus cristatus* (from Croica)



Figure 3. *Lissotriton vulgaris* (from Croica)



Figure 4. *Salamandra atra* (from Corcova)



Figure 5. *Bufo viridis* (from Pârvulești)

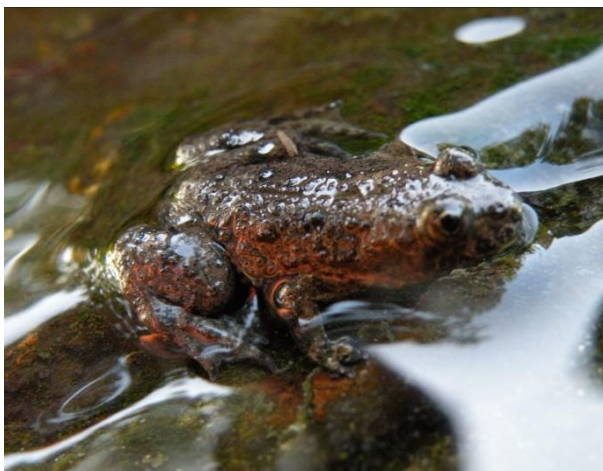


Figure 6. *Bombina orientalis* (from Croica; dorsal side – left, ventral side - right)

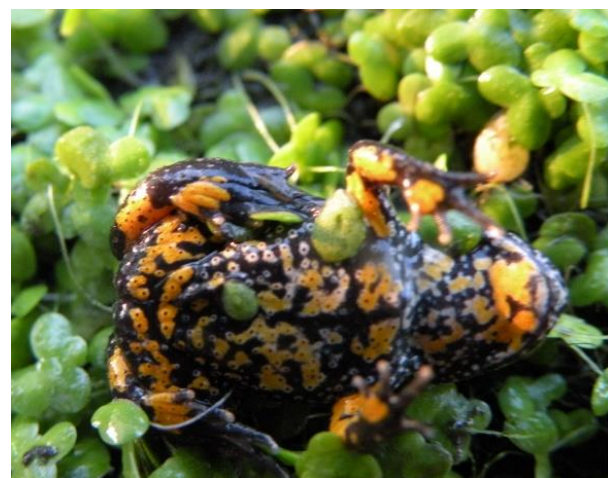




Figure 7. *Hyla orientalis* (from Măru Roșu)



Figure 8. *Rana dalmatina* (from Vlădășești)



Figure 9. *Testudo hermanni* (July 2022 - coupling; from the Croica hills)



Figure 10. *Emys orbicularis* (from Cernaia)



Figure 11. *Lacerta viridis* (from Jirov)



Figure 12. *Lacerta agilis* (from Stejaru)



Figure 13. *Podarcis tauricus* (from Breța)



Figure 14. *Anguis fragilis* (from Corcova)



Figure 15. *Natrix natrix* (from Cernaia)



Figure 16. *Coronella austriaca* (from Gârbovățu de Jos)



Figure 17. Măru Roșu village (overview) (farmland in the far distance)

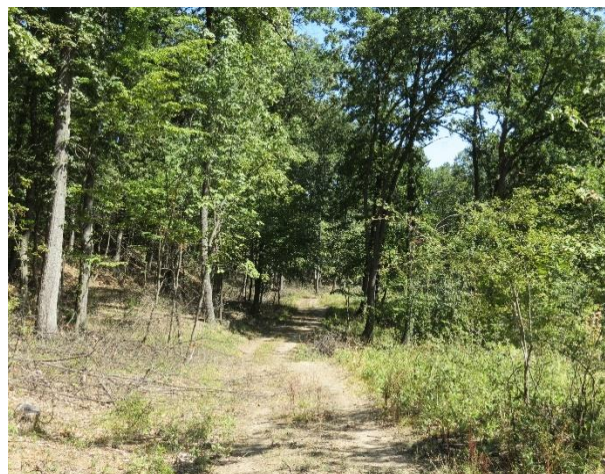


Figure 18. Forest habitat (from Croica)



Figure 19. Motru River



Figure 20. Stagnant aquatic habitat (from Croica)

REFERENCES

- Andrei, M. (1993). Contribuții la cunoașterea herpetofaunei din nordul județului Gorj și Mehedinți. *Ses. Științ. Secț. Biol. Univ "Babeș-Bolyai" Cluj-Napoca. Facult. Biol. Geogr. Geol., Secț. Biol.* Cluj-Napoca, 95 pp.
- Andrei, M., Török, Z. (1997). Addenda to "A bibliographical checklist of herpetology in Romania". *Trav. Mus. natl. Hist. nat. "Grigore Antipa"*. București, 39: 209 - 240.
- Bazilescu, E., Sorescu, C., Cruce, M., Popescu, M. (1980). Catalogul sistematic al colecțiilor de vertebrate din Muzeul Olteniei. *Oltenia. Studii și Comunicări. Științele Naturii*. Muzeul Olteniei Craiova. Craiova, 3: 338 - 346.
- Cogălniceanu, D. (1997). *Practicum de ecologie a Amfibienilor - Metode și tehnici în studiul ecologiei amfibienilor*. Editura Universității din București. București, 122 pp.
- Cogălniceanu, D., Andrei, M. (1992). A bibliographical checklist of herpetology in Romania. *Trav. Mus. natl. Hist. nat. "Grigore Antipa"*. București, 32: 331 - 346.
- Cogălniceanu, D., Aioanei, F., Matei, B. (2000). *Amfibienii din România. Determinator*. Editura Ars Docendi. București, 100 pp.
- Cogălniceanu, D., Székely, P., Samoilă, C., Iosif, R., Tudor, M., Plăiașu, R., Stănescu, F., Rozyłowicz, L. (2013a). Diversity and distribution of amphibians in Romania. *ZooKeys* 296: 35 - 57. doi: 10.3897/zookeys.296.4872
- Cogălniceanu, D., Rozyłowicz, L., Székely, P., Samoilă, C., Stănescu, F., Tudor, M., Székely, D., Iosif, R. (2013b). Diversity and distribution of reptiles in Romania. *ZooKeys* 341: 49–76. doi: 10.3897/zookeys.341.5502
- Covaciu-Marcov, S. D., Cicort-Lucaciu, A. Șt., Ferenți, S. (2007a). *Salamandra salamandra* (Amphibia, Salamandridae) at 150 m height in the forest from Livada, Satu Mare county, Romania. *Analele Universității din Craiova. Seria Biologie, Horticultură, Tehnologia prelucrării produselor agricole, Ingineria mediului*. Craiova, 12 (48): 283 - 286.
- Covaciu-Marcov, S. D., Sas, I., Cicort-Lucaciu, A. Șt., Bogdan, H., Groza, M. (2006). Contribuții la cunoașterea compoziției și răspândirii herpetofaunei Moldovei dintre Siret și Prut. *Oltenia. Studii și comunicări. Științele Naturii*. Muzeul Olteniei Craiova. Craiova, 22: 242 - 247.
- Covaciu-Marcov, S. D., Toth, A., Ile, R. D., Iaba, I., Lazăr, O. (2007b). Researches on some populations of *Bombina variegata* from south-west of Mehedinți county (Romania). *Analele Universității din Craiova. Seria Biologie,*

- Horticultură, Tehnologia prelucrării produselor agricole, Ingineria mediului.* Craiova, 12 (48), pp. 277 - 282.
- Covaciu-Marcov, S. D., Cicort-Lucaciu, A. Șt., Gaceu, O., Sas, I., Ferenți, S., Bogdan, H. V. (2009a). The herpetofauna of the south-western part of Mehedinți County, Romania. *North-Western Journal of Zoology.* Oradea, 5 (1): 142 - 164.
- Covaciu-Marcov, S.D., Cicort-Lucaciu, A. Șt., Dobre, Felicia, Ferenți, Sára., Birceanu, M., Mihuț, R., Strugariu, A. (2009b). The herpetofauna of the Jiului Gorge National Park, Romania. *North-Western Journal of Zoology.* Oradea, 5 (1): S01-S78.
- Cruce, M. (1971a) Contribuții la studiul faunei herpetologice din Oltenia. *Analele Universității din Craiova, III, Șt. agric. Biol.* Craiova, 3: 389 - 393.
- Cruce, M. (1971b). Observații privind răspândirea geografică și ecologia șopârlei de iarbă (*Lacerta taurica* Pallas) în România. *Studii și Cercetări de Biologie, Seria Zoologie*, 23 (2):185-189.
- Cruce, M. 1978. Structure et dynamique d'une population de *Testudo hermanni hermanni* Gmel. (Reptilia). *Trav. Mus. Hist. nat "Grigore Antipa"*. București, 19: 325 - 328.
- Cruce, M., Răducan I. (1975). Hibernarea broaștei țestoase de uscat *Testudo hermanni hermanni* G. *Studii și Cercetări - Comitetul de Cultură și Educație Socialistă al județului Mehedinți, Subcomisia Ocrotirii Monumentelor Naturii a Olteniei, Consiliul pentru Ocrotirea Monumentelor Naturii al județului Mehedinți*. Drobeta Turnu-Severin, pp. 323 - 327.
- Cruce, M., Răducan, I. (1976). Reproducerea la broasca țestoasă de uscat (*Testudo hermanni hermanni* G.). *Studii și Cercetări de Biologie, Seria Biologie Animală*, 28 (2): 175 - 180.
- Cucu, V, Popova-Cucu, A. (1980). *Județele Patriei – Județul Mehedinți.* Editura Academiei R.S.R. 205 pp.
- Doniță, N., Popescu, A., Paucă-Comănescu, M., Mihăilescu, S., Biriș, I. A. (2005). *Habitatele din România.* Editura Tehnică Silvică. București, 496 pp.
- Dufresnes, C., Litvinchuk, S.N., Leuenberger, J., Ghali, K., Zinenko, O., Stöck, M., Perrin, N. (2016). Evolutionary melting pots: a biodiversity hotspot shaped by ring diversifications around the Black Sea in the Eastern tree frog (*Hyla orientalis*). *Molecular Ecology*, 25: 4285–4300. <https://onlinelibrary.wiley.com/doi/abs/10.1111/mec.13706>
- Fuhn, I. (1960). Amphibia. *Fauna R.P.R.* 14 (1). Editura Academiei R.P.R. București, 228 pp.
- Fuhn, I. (1975). Amphibia și Reptilia. In: *Grupul de cercetări complexe "Porțile de Fier" - Seria Monografii, ale Academiei R. S. R.* București, pp. 301 - 303.
- Fuhn, I., Vancea, Șt. (1961). Reptilia. *Fauna R.P.R.* 14 (2). Editura Academiei R.P.R. București, 352 pp.
- Grossu, Al., Popescu, M. (1975). Vertebratele din zona montană a Olteniei. *Studii și cercetări –Comitetul de Cultură și Educație Socialistă al județului Mehedinți, Subcomisia Ocrotirii Monumentelor Naturii a Olteniei, Consiliul pentru Ocrotirea Monumentelor Naturii al județului Mehedinți*, Drobeta-Turnu Severin, pp. 335-339.
- Iftime, Al. (2005a). New observations on the herpetofauna from Domogled-Valea Cernei National Park and Porțile de Fier Natural Park (Romania). *Travaux du Muséum National d'Histoire Naturelle „Grigore Antipa”*. București, 48: 327–337.
- Iftime, Al. (2005b). *Reptile. Amfibieni.* In: Botnariuc, N. & Tatole, Victoria (eds): *Cartea Roșie a Vertebratelor din România.* Editura Academia Română & Muzeul Național de Istorie Naturală „Grigore Antipa“, București. Tipografia

- Curtea Veche Trading S.R.L., București, pp. 173 - 214.
- Iftime, Al, Iftime, O. (2016). New Herpetological Records in Mehedinți County (Romania) and their Importance for Conservation. *Delta Dunării. Studii și cercetări de științele naturii și muzeologie*. Tulcea, 6: 129 - 136.
- Iftime, Al, Petresu, A-M., Iftime, O. (2008). Observations on the herpetofauna of the Mehedinți Karstic Plateau (Mehedinți and Gorj counties, Romania). *Travaux du Muséum National d'Histoire Naturelle „Grigore Antipa”*, București, 51: 219 - 230.
- Lambert, M. R., Cogălniceanu, D. (1999). Preliminary observations addressing herpetofaunal diversity in southern Romania (august 1997). *British Herpetological Society Bulletin*, 68: 31-35.
- Rozyłowicz, L. (2008). *Metode de analiză a distribuției areal-geografice a țestoasei lui Hermann (Testudo hermanni Gmelin, 1789) în România. Studiul de caz: Parcul Natural Porțile de Fier*. Editura Universității din București.
- Rozyłowicz, L., Popescu, V. D. (2013). Habitat selection and movement ecology of eastern Hermann's tortoises in a rural Romanian landscape. *European Journal of Wildlife Research*. 59: 47 - 55. doi: 10.1007/s10344-012-0646-y
- Speybroeck, J., Beukema, W., Bok, B., Voort Van Der, J. (2016). *Field guide to the Amphibians and Reptiles of Britain and Europe*. Bloomsbury, London, 432 pp.
- Speybroeck, J., Beukema, W., Dufresnes, C., Fritz, U., Jablonski, D., Lymberakis, P., Martínez-Solano, I., Razzetti, E., Vamberger, M., Vences, M., Vörös, J., Crochet, P. A. (2020). Species list of the European herpetofauna – 2020 update by the Taxonomic Committee of the Societas Europaea Herpetologica. *Amphibia-Reptilia*, 41: 139 - 189.
- Stroescu, D., (1982). Contribuții la studiul reptilelor din zona Porților de Fier II. In: *Conservarea naturii pe baze ecologice. Stud. Cerc. Drobeta-Turnu Severin*, pp. 181 - 184
- Șerban, M. (1972). Contribuții la studiul herpetofaunei din jud. Mehedinți (II). *Stud. Cerc. Subcomis. Ocrot. Mon. Nat. Oltenia*. Târgu Jiu, pp. 171 - 179.
- Șerban, M. (1975). Contribuții la studiul herpetofaunei din Podișul Mehedinți. *Stud. Cerc. Drobeta-Turnu Severin*, pp. 309 - 316.
- Török, Z. (2011). Data-base with bibliographical sources on the Romanian herpetofauna and herpetologists. *Scientific Annals of the D.D.I. Tulcea*, 17: 147 - 204.
- Török, Z., Ghira, I., Sas, I., Zamfirescu, Șt. (2013). *Ghid sintetic de monitorizare a speciilor comunitare de reptile și amfibieni din România*. Editura Centrul de Informare Tehnologică "Delta Dunării", Tulcea, 126 pp.
- ***, Ordonanță de Urgență nr. 57 din 20 iunie 2007 privind regimul ariilor naturale protejate, conservarea habitatelor naturale, a florei și faunei sălbatice. Monitorul Oficial Partea I. 442/29.06.2007.
- ***, <https://www.iucnredlist.org/species/82496838/82495296>,
- ***, <https://www.iucnredlist.org/species/82494309/174180490#geographic-rang>
- ***, [https://ro.wikipedia.org/wiki/Comuna Corcova, Mehedin%C8%9Bi](https://ro.wikipedia.org/wiki/Comuna_Corcova,_Mehedin%C8%9Bi)
- ***, [https://ro.db-city.com/Rom%C3%A2nia--Jude%C8%9Bul-Mehedin%C8%9Bi Corcova#geo](https://ro.db-city.com/Rom%C3%A2nia--Jude%C8%9Bul-Mehedin%C8%9Bi_Corcova#geo)
- ***, <https://www.comunacorcova.ro/geografia/>
- ***, <https://www.comunacorcova.ro/agricultura/>
- ***, [https://ro.wikipedia.org/wiki/R%C3%A2zul Co%C8%99u%C8%99tea](https://ro.wikipedia.org/wiki/R%C3%A2zul_Co%C8%99u%C8%99tea)
- ***, <https://orasultau.ro/harta/corcova-o>.