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## OBSERVATIONS ON THE HERPETOFAUNA OF THE GIURGIU COUNTY (ROMANIA)

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**Abstract.** The results of faunistical and multi-year abundance surveys of the herpetofauna in the Giurgiu county (Romania) are presented here; we have identified 11 amphibian species and 12 reptile species, with new records for many of these. We note that most species were relatively stable in their abundance between 2000 and 2005/2006; a decline was, however, noted in some species, notably in the widespread and relatively common *Lacerta agilis*.

**Résumé.** On présente les résultats des études faunistiques et concernant l'abondance multiannuelle des amphibiens et des reptiles du département de Giurgiu (Roumanie); on y a identifié 11 espèces d'amphibiens et 12 espèces de reptiles, mentionnant de nouvelles localités pour bon nombre de ces espèces. On note que la plupart des populations y maintiennent leur abondance entre les années 2000 et 2005/2006; on remarque, cependant, un déclin chez quelques espèces, notamment chez l'espèce largement répandue et relativement commune *Lacerta agilis*.

**Key words:** Giurgiu county, amphibians, reptiles, distribution, multi-year, abundance, decline.

### INTRODUCTION

Although geographically close to the capital of Romania, Giurgiu county remains quite sparsely and inequally investigated in terms of the distribution of its herpetofauna. While the Danube floodplain sector of the Giurgiu county was discussed in detail by Török (2001) and Iftime (2005 a), the rest of the county is less well studied. The amphibians are better known with the records of Fuhn (1960) and Cogălniceanu et al. (2000), this last integrating previous data but also significant original data (unfortunately only given in UTM squares, without precise localities), and those of Burlacu et al. (2004) from Comana, which, however, admit imprecision in the determination of *Rana (Pelophylax)* spp. For the reptiles, practically all records to-date, except two for *Podarcis taurica* (Cruce, 1972) are from the greater Comana area: Fuhn & Vancea (1961), Matei (2003), Burlacu et al. (2004). In this study we try to give some more precise data for the distribution of the amphibian and reptile species, as well as present some observations pertaining to the abundance and multi-year trends of some populations.

### MATERIALS AND METHODS

This paper is based upon field work performed from 2000 to 2008, with field trips realized each year between March and September in a variety of points that can be grouped into 16 localities or study areas: Corbii Ciungi; Găiseni forest; Malu Spart - Căscioarele forest; Bușani; Milcovățu; Clejani; Zădăriciu; Ghimpați; Stâlpu; Iepurești; Naipu; Schitu; Călugăreni forest and wetlands; Mihai Bravu; Comana – Padina Tătarului forest and wetlands; Mogoșești; Grădiștea; Frasinu forest. Qualitative observations were undertaken in most locations, but in selected sites quantitative observations were made using the active transects method,

combining visual and acoustic identification (after Heyer et al., 1994, and McDiarmid, 1992, in Cogălniceanu, 1997), the transect being 4 m wide. Abundance classes were established by us as follows: 0 (not found); 1 (<1 ex/ 500 m stretch of transect); 2 (1-10 ex/ same length); 3 (10-30 ex/ same length); 4 (> 30/ same length). Such transect checks were realized at Milcovățu (800 m), Călugăreni (3600 m) and Comana (4000 m), all of them across ecotonal gradients from lowland oak-hornbeam forest to permanent freshwater ponds. These transects were repeated each year in spring, from 2000 to 2006 (for Călugăreni, from 2000 to 2005). The animals were observed in the field, and captured by hand if necessary for identification and measurements, and then released. For the genus *Rana*, subgenus *Pelophylax* (i. e. „Green Frogs” or „West Palearctic Water Frogs”) specific identification was performed using morphological and morphometrical characteristics and/or song-based identification. Photographs were taken whenever possible.

## RESULTS

### A. Distribution survey

#### AMPHIBIANS

*Triturus cristatus* (Laur) (Great Crested Newt) and introgressive hybrids with *T. dobrogicus* (Kiritzescu) (Danube Crested Newt) (Fig. 1 A): known at Săbăreni, Ulmi, Comana (Fuhn, 1960); Cogălniceanu et al. (2000) give some more distribution points; Burlacu et al. (2004) confirm it at Comana; we found it at Malu Spart - Căscioarele forest, Milcovățu and Călugăreni.

*Triturus (Lissotriton) vulgaris* (L.) (Smooth Newt): known at Săbăreni, Călugăreni, Comana (Fuhn, 1960); Cogălniceanu et al. (2000) give one more distribution point; Burlacu et al. (2004) confirm it at Comana; we found it at Milcovățu; Schitu; Malu Spart - Căscioarele forest; Călugăreni forest and wetlands; Mihai Bravu; Comana – Padina Tătarului forest and wetlands.

*Bombina bombina* (L.) (Fire-bellied Toad): known at Săbăreni, Călugăreni, Comana (Fuhn, 1960); Cogălniceanu et al. (2000) give some more distribution points; Burlacu et al. (2004) confirm it at Comana; we found it at Corbii Ciungi; Găiseni forest; Malu Spart - Căscioarele forest; Milcovățu; Ghimpați; Naipu; Călugăreni forest and wetlands; Comana – Padina Tătarului forest and wetlands; Mogoșești.

*Pelobates fuscus* (Laur.) (Common Spadefoot Toad) (Fig. 1 B): known at Comana (Fuhn, 1960); Cogălniceanu et al. (2000) give some more distribution points; Burlacu et al. (2004) confirm it at Comana; we found it at: Găiseni forest; Milcovățu; Ghimpați; Călugăreni forest and wetlands; Comana – Padina Tătarului forest and wetlands; Mogoșești. Additionally, a skull with features that warrant its identification as *Pelobates syriacus* was found in a pellet of a Little Owl (*Athene noctua*) at Călugăreni in 1997, but despite searches a living population was not found in the area till now. *Pelobates syriacus* is known from the Danubian floodplain in Giurgiu county (Fuhn & Vancea, 1961; Cogălniceanu et al., 2000) but was not found during recent surveys (Török, 2001; Iftime, 2005 a). Its occurrence in an owl pellet may mean that a population survives in the area or close to it – or that the owl foraged far away.

*Bufo bufo* (L.) (Common Toad): is firstly given from this area by Cogălniceanu et al. (2000), approximately at Comana and Căscioarele; Burlacu et



Fig. 1 – A, *Triturus cristatus* – *T. dobrogicus* introgressive adult male, Milcovăţu, 2006 (photo by A. Ifîtime); B, *Pelobates fuscus*, adult male, Milcovăţu, 2005 (photo by A. Ifîtime).

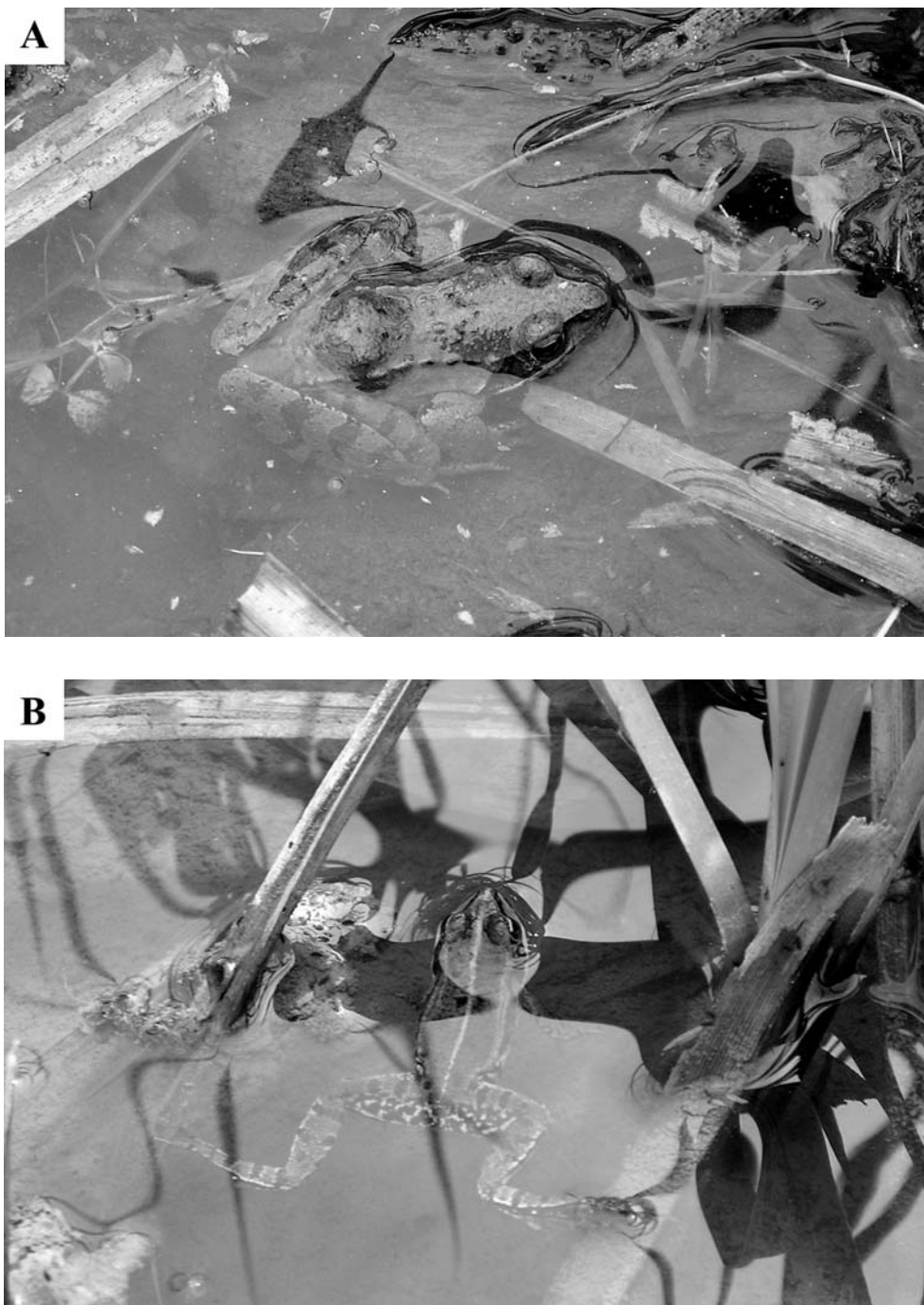


Fig. 2 – A, *Rana dalmatina*, adult male, Călugăreni, 2005 (photo by A. Iftime); B, *Rana lessonae*, adult, Comana, 2005 (photo by A. Iftime); note the relatively short tibiae and the visible, large metatarsal tubercles.

al. (2004) confirm it at Comana; we found it at Malu Spart - Căscioarele forest; Milcovău; Călugăreni forest and wetlands; Mihai Bravu; Comana – Padina Tătarului forest and wetlands.

*Bufo (Pseudepidalea) viridis* Laur. (Green Toad): known at Săbăreni (Fuhn, 1960); Cogălniceanu et al. (2000) give some more distribution points; Burlacu et al. (2004) find it at Comana; we found it at Găiseni forest; Malu Spart - Căscioarele forest; Milcovău; Ghimpați; Călugăreni forest and wetlands; Comana – Padina Tătarului forest and wetlands.

*Hyla arborea* (L.) (European Tree Frog): known at Săbăreni, Comana (Fuhn, 1960); Cogălniceanu et al. (2000) give some more distribution points; Burlacu et al. (2004) confirm it at Comana; we found it at: Milcovău; Ghimpați; Călugăreni forest and wetlands; Mihai Bravu; Comana – Padina Tătarului forest and wetlands; Mogoșești.

*Rana dalmatina* Bonap. (Agile Frog) (Fig. 2 A): known at Călugăreni, Comana (Fuhn, 1960); Cogălniceanu et al. (2000) give some more distribution points; Burlacu et al. (2004) confirm it at Comana; we found it at: Găiseni forest; Malu Spart - Căscioarele forest; Milcovău; Iepurești; Călugăreni forest and wetlands; Mihai Bravu; Comana – Padina Tătarului forest and wetlands.

*Rana (Pelophylax) ridibunda* Pall. (Marsh Frog): firstly recorded for this area (and the Giurgiu county) by Cogălniceanu et al. (2000) giving numerous localities; we found it at Corbii Ciungi; Găiseni forest; Malu Spart-Căscioarele forest; Milcovău; Bucșani; Clejani; Zădăriciu; Ghimpați; Stâlp; Iepurești; Naipu; Schitu; Călugăreni forest and wetlands; Comana – Padina Tătarului forest and wetlands; Mogoșești; Grădiștea; Frasinu forest.

*Rana (Pelophylax) lessonae* Camerano (Pool Frog) (Fig. 2 B): firstly mentioned for this area (and the Giurgiu county) by Burlacu et al. (2004) at Comana; we found it at Comana – Padina Tătarului forest and wetlands.

*Rana (Pelophylax) kl. esculenta* L. (Edible Frog): known at Comana (Fuhn, 1960); Cogălniceanu et al. (2000) give some more distribution points; Burlacu et al. (2004) confirm it at Comana; found at Călugăreni forest and wetlands; Comana – Padina Tătarului forest and wetlands.

## REPTILES

*Emys orbicularis* (L.) (Pond Turtle): known from Comana (Fuhn & Vancea, 1961); Matei (2003) and Burlacu et al. (2004) confirm it at Comana; we found it at Călugăreni forest and wetlands; Bucșani; Comana – Padina Tătarului forest and wetlands.

*Ablepharus kitaibelli* Bibron et Bory (Snake-Eyed Skink): known from Comana (Fuhn & Vancea, 1961); Matei (2003) and Burlacu et al. (2004) confirm it at Comana; we found it at Schitu; Comana – Padina Tătarului forest and wetlands.

*Lacerta agilis* L. (Sand Lizard): the populations we found belong to the subspecies *Lacerta agilis chersonensis* Andrzejowski, which is widespread east and south of the Carpathians. Known from Comana (Fuhn & Vancea, 1961); Matei (2003) and Burlacu et al. (2004) confirm it at Comana; we found it at Găiseni forest; Malu Spart - Căscioarele forest; Milcovău; Naipu; Schitu; Stâlp; Călugăreni forest and wetlands; Comana – Padina Tătarului forest and wetlands; Grădiștea; Frasinu forest.

*Lacerta viridis* (Laur.) (Green Lizard): known from Săbăreni (*L. v. viridis*), Comana, Greaca (*L. v. meridionalis*) (Fuhn & Vancea, 1961); Matei (2003) and

Burlacu et al. (2004) confirm it at Comana; we found it at: Corbii Ciungi; Găiseni forest; Malu Spart - Căscioarele forest; Ghimpați; Stâlpu; Iepurești; Naipu; Schitu; Călugăreni forest and wetlands; Mihai Bravu; Comana – Padina Tătarului forest and wetlands; Mogoșești; Grădiștea; Frasinu forest.

*Lacerta praticola* Eversm. (Meadow Lizard): known from Comana (Fuhn & Vancea, 1961); Matei (2003) and Burlacu et al. (2004) confirm it at Comana; we found it at Comana – Padina Tătarului forest and wetlands.

*Podarcis taurica* Pall. (Crimean Lizard): known from Ghizdaru and Izvoarele (Cruce, 1972); we found it at Milcovățu.

*Anguis fragilis* L. (Slowworm): known from Comana (Fuhn & Vancea, 1961); Matei (2003) and Burlacu et al. (2004) confirm it at Comana; we found it at Comana – Padina Tătarului forest and wetlands.

*Coluber (Dolichophis) caspius* Gmel.: known from Comana (Fuhn & Vancea, 1961); Matei (2003) finds it at Măgura - Greaca, at the South end of Comana forest masif, and Burlacu et al. (2004) confirm it at Comana; we found it at Comana – Padina Tătarului forest and wetlands (its southern part, thus not appearing in the transect).

*Coronella austriaca* Laur. (Smooth Snake) (Fig. 3 A): known from Comana (Fuhn & Vancea, 1961); Burlacu et al. (2004) confirm it at Comana; we found it at Comana – Padina Tătarului forest and wetlands.

*Elaphe (Zamenis) longissima* (Laur.) (Aesculapian Snake): known from Comana (Matei, 2003, confirmed by Burlacu et al., 2004); we found it at Comana – Padina Tătarului forest and wetlands; Mogoșești.

*Natrix natrix* (L.) (Grass Snake) (Fig. 3 B): known from Comana (Fuhn & Vancea, 1961); Matei (2003) and Burlacu et al. (2004) confirm it at Comana; we found it at Găiseni forest; Milcovățu; Stâlpu; Schitu; Călugăreni forest and wetlands; Comana – Padina Tătarului forest and wetlands; Frasinu forest.

*Natrix tessellata* (Laur.) (Diced Snake): known from Comana (Burlacu et al., 2004); we found it at Clejani; Călugăreni forest and wetlands; Comana – Padina Tătarului forest and wetlands.

### B. Quantitative survey

#### Transect 1 – Milcovățu:

Species	Abundance class in transect in year:				
	2002	2003	2004	2005	2006
<i>Triturus cristatus/T. dobrogicus</i>	2	2	1	2	2
<i>Triturus vulgaris</i>	2	2	2	2	3
<i>Bombina variegata</i>	2	2	3	3	2
<i>Pelobates fuscus</i>	2	2	2	2	2
<i>Bufo bufo</i>	1	1	0	0	0
<i>Bufo viridis</i>	0	1	1	0	0
<i>Hyla arborea</i>	2	2	2	2	2
<i>Rana dalmatina</i>	1	1	2	2	2
<i>Rana ridibunda</i>	2	2	2	2	2
<i>Rana kl. esculenta</i>	0	0	0	0	1
<i>Lacerta agilis</i>	1	1	0	0	0
<i>Podarcis taurica</i>	2	2	1	1	0
<i>Natrix natrix</i>	0	1	0	0	0

## Transect 2 – Călugăreni

Species	Abundance class in transect in year:				
	2002	2003	2004	2005	2006
<i>Triturus cristatus/T. dobrogicus</i>	2	1	1	1	-
<i>Triturus vulgaris</i>	2	2	2	2	-
<i>Bombina variegata</i>	2	2	2	2	-
<i>Pelobates fuscus</i>	1	1	1	1	-
<i>Bufo bufo</i>	1	0	0	0	-
<i>Hyla arborea</i>	2	2	2	2	-
<i>Rana dalmatina</i>	2	2	2	2	-
<i>Rana ridibunda</i>	2	2	2	2	-
<i>Rana kl. esculenta</i>	1	1	1	1	-
<i>Emys orbicularis</i>	2	1	2	1	-
<i>Lacerta agilis</i>	1	1	0	0	-
<i>Lacerta viridis</i>	1	2	2	2	-
<i>Natrix natrix</i>	1	1	1	1	-
<i>Natrix tessellata</i>	1	0	0	0	-

## Transect 3 – Comana

Species	Abundance class in transect in year:				
	2002	2003	2004	2005	2006
<i>Triturus vulgaris</i>	1	1	1	1	1
<i>Bombina variegata</i>	2	2	2	2	2
<i>Pelobates fuscus</i>	0	0	1	1	1
<i>Bufo bufo</i>	1	2	2	2	2
<i>Bufo viridis</i>	0	0	0	1	1
<i>Hyla arborea</i>	2	2	1	1	1
<i>Rana dalmatina</i>	1	1	1	2	2
<i>Rana ridibunda</i>	2	2	2	2	2
<i>Rana lessonae</i>	0	0	0	1	0
<i>Rana kl. esculenta</i>	1	1	1	1	1
<i>Emys orbicularis*</i>	0	0	0	0	0
<i>Ablepharus kitaibelli</i>	1	0	1	1	0
<i>Lacerta agilis</i>	1	1	0	0	0
<i>Lacerta viridis</i>	1	2	2	2	2
<i>Lacerta praticola</i>	0	1	2	2	1
<i>Anguis fragilis</i>	1	1	1	1	1
<i>Natrix natrix</i>	1	1	1	1	1
<i>Natrix tessellata</i>	1	1	0	1	1
<i>Coronella austriaca</i>	1	0	0	0	0
<i>Elaphe longissima</i>	1	0	0	0	0

## DISCUSSION

We have found 23 amphibian and reptile species distributed across the Giurgiu county. For all reptiles and in many cases for amphibians also, all our records outside the greater Comana (including Padina Tătarului and Măgura - Greaca) area are new. Their distribution shows that, besides the Comana area which is the richest in terms of herpetofauna species, there are also other centers of biodiversity, not so rich but still important, such as Călugăreni (which is contiguous

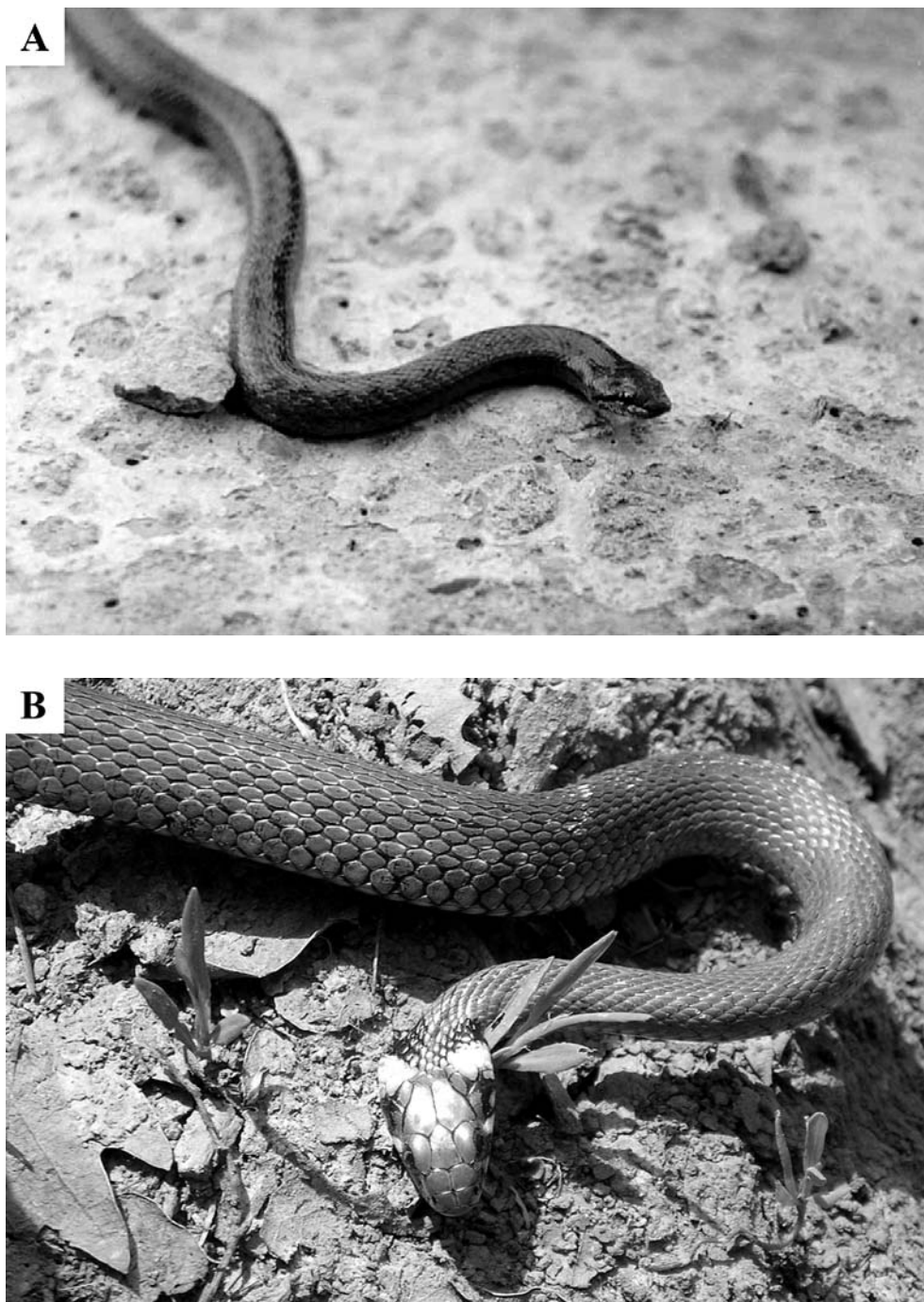


Fig. 3 – A, *Coronella austriaca*, adult, Comana, 2002 (photo by A. Iftime); B, *Natrix natrix*, adult, Schitu, 2004 (photo by A. Iftime). This species is present at Comana, being seen by us only in parts outside the quantitative transect.

with Comana), Ghimpați - Milcovățu-Clejani area, Schitu (interesting by harbouring a population of *Ablepharus*), and the region of Găiseni and Malu Spart - Căscioarele forest.

In the case of Crested Newts (the *Triturus cristatus* species group) we have found populations in which the morphology indicates a history of introgressive hybridization between *T. cristatus* and *T. dobrogicus*, which is documented in this area (see, e.g., Arntzen et al., 1997; Cogălniceanu et al., 2000). Newts at Călugăreni appear morphologically closer to *T. dobrogicus*, those in other populations investigated by us, to *T. cristatus*.

We can also add weight to the somewhat speculative report of *Rana lessonae* in Comana area by Burlacu et al. (2004), as these authors do not claim precise determination of *Rana (Pelophylax)* frogs and do not record the commonest species, *R. ridibunda* – but nevertheless we have been able to confirm their record of *Rana lessonae* by finding a specimen showing clear features of this species in the marshes along Gurbanu river, in the Comana forest.

As for the quantitative multi-year surveys, they show continuity and relatively stable numbers at all locations in most species, the exceptions being such rare species, which are only sporadically found in transects, not allowing a proper evaluation of population trends, such as *Ablepharus*, *Elaphe* and *Coronella*, and a few species which appear to have undergone a decline, the most notable situation being the widespread *Lacerta agilis*, generally taken as common, but here not found in any recent quantitative transect. The isolated and interesting population of *Podarcis taurica* at Milcovățu has also declined and may even be extinct now; in this situation the decline is due to intense littering of its habitat with domestic waste, a situation which has also afflicted *Lacerta agilis* at the same site. However, why *Lacerta agilis* is missing in Călugăreni and Comana is unclear to us. Also, bufonid toads appear to have declined at Milcovățu and Călugăreni. Further investigation is needed to establish the long-term trend.

Our results highlight the need for constant surveying and monitoring of amphibians and reptiles, for their populational and meta-populational dynamic is such as to generate variation across time in terms of both distribution and abundance, especially in conditions of human pressure. Such variation needs to be considered for the conservation of amphibian and reptile species, most of which are in overall declines and are listed as threatened to various degrees (see, e.g., Iftime, 2005 b)

#### OBSERVAȚII ASUPRA HERPETOFAUNEI JUDEȚULUI GIURGIU (ROMÂNIA)

##### REZUMAT

Sunt expuse rezultatele unor investigații faunistice privind abundența multi-anuală asupra herpetofaunei județului Giurgiu (România). Au fost identificate în teren 11 specii de amfibieni și 12 de reptile, cu noi semnalări pentru multe dintre acestea. Abundența majorității speciilor rămâne relativ stabilă între 2000 și 2005/2006; cu toate acestea, a fost observat și declinul abundenței unor specii, în particular în ce privește specia larg răspândită și relativ comună *Lacerta agilis*.

##### LITERATURE CITED

- ARNTZEN, J. W., R. J. F. BUGTER, D. COGĂLNICEANU, G. P. WALLIS, 1997 - The distribution and conservation status of the Danube crested newt, *Triturus dobrogicus*. *Amphibia-Reptilia*, 18: 133-142.
- BURLACU, L., E. POPESCU, N. CRĂCIUN, F. AIOANEI, M. TUDOR, 2004 - Contributions to the study of the reptile and amphibian species in the Comana nature reserve – Giurgiu

- county. Studii și Cercetări Științifice, Biologie (Serie nouă), Universitatea Bacău, 9: 192-200.
- COGĂLNICEANU, D., 1997 - Practicum de ecologie a amfibienilor: Metode și tehnici în studiul ecologiei amfibienilor. Edit. Universității București, 122 pp. (in Romanian)
- COGĂLNICEANU, D., F. AIOANEI, B. MATEI, 2000 – Amfibienii din România. Determinator. Edit. Ars Docendi, București, 100 pp. (in Romanian)
- CRUCE, M., 1972 – Studiul populațiilor de *Lacerta taurica taurica* din România. Teză de doctorat, Universitatea Iași.
- FUHN, I., 1960 – Amphibia. *In: Fauna R.P.R.*, 14 (1), Edit. Academiei R.S.R., București. (in Romanian)
- FUHN, I., 1969 - Broaște, șerpi, șopârle. Edit. Sport-Turism, București. (in Romanian)
- FUHN, I., ȘT. VANCEA, 1961 – Reptilia. *In: Fauna R.P.R.*, 14 (2), Edit. Academiei Române. București. (in Romanian)
- IFTIME, A., 2005 a - Herpetological observations in the Danube floodplain sector in the Giurgiu county (Romania). *Travaux du Muséum National d'Histoire Naturelle „Grigore Antipa”*, 48: 339-348.
- IFTIME, A., 2005 b. Reptilia. Amphibia. *In: N. Botnariuc, V. Tatole (eds), Cartea Roșie a Vertebratelor din România*. Edit. Curtea Veche, București. (in Romanian)
- MATEI, B., 2003 - Reptile fauna in sylvosteppe areas between Olt and Ialomița. *Proceeding of the Institute of Biology, Romanian Academy*, 5: 99-103.
- TÖRÖK, ZS., 2001 – Herpetological observations in the lower Danube area (Calafat-Călărași sector). *Studii și Cercetări, Biologie, Universitatea Bacău*, 6: 115-119.

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