

# New amphibian and reptilian Early Pleistocene fossil assemblages from the Dacian Basin (Southern Romania)

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## Introduction

The Lower Pleistocene continental deposits of the Dacian Basin (southern Romania) yielded a large amount of vertebrate fossils, most of them occurring as isolated finds of large mammal bones (Radulescu et al., 2003; Andreescu et al., 2012). Several sites produced, however, more numerous fossil specimens belonging to various mammal groups, thus offering important insights in the composition of local faunal assemblages. The most diverse such assemblages are those from Slatina-2 (around 1.9 Ma old; Feru et al., 1978) and Tetoiu (around 1.6 Ma old; Radulescu & Samson, 1990; Terhune et al., 2020). Recently, another, fairly diverse, vertebrate assemblage was found at Copăceni (around 1 Ma). Although large mammal taxa of the above-mentioned sites were described, and the mammalian assemblages are relatively well known (for more than half a century, for the former two sites), no Pleistocene herpetofaunal remains were mentioned from anywhere in the entire Dacian Basin until very recently, when the first ectothermic vertebrates were mentioned from Copăceni, a newly investigated site near Bucharest (Vasile et al., 2013).

## Method

Recent fieldwork and searches in old collections led to the identification of numerous herpetofaunal remains from Copăceni and Tetoiu.

A survey of the material from the Tetoiu Formation, housed in the collection of the “Emil Racoviță” Institute of Speleology (Bucharest), led to the identification of over 300 vertebrae and several cranial bones belonging to ophidians, as well as a single frontoparietal anuran fragment.

Intense screen-washing of the silty mudstones from Copăceni (around 500 kg of sediment) led to the discovery of numerous small vertebrate remains, including around 130 fish teeth and bone fragments (Vasile et al., 2020), but also various amphibian and reptilian bones.

## Findings

The morphological and morphometrical analysis (Szyndlar, 1984; Venczel, 2000; Roček, 1981) helped assign the material found at Tetoiu to several colubrine and natricine snakes, including *Hierophis gemonensis*, *Hierophis paralongissimus*, *Hierophis viridiflavus*, *Dolichophis jugularis*, *Zamenis* sp., *Natrix natrix*, and *Natrix tessellata*, as well as to the Syrian spadefoot toad *Pelobates syriacus*.

The amphibian and reptile remains found at Copăceni were assigned to caudate (*Lissotriton vulgaris*, *Triturus* sp.) and anuran (*Bombina* sp., *Hyla* aff. *Hyla orientalis*, *Bufo bufo*, *Pelobates syriacus*, *Pelophylax* sp., *Rana ?temporaria*) amphibians, lizards (indeterminate lacertids and the anguid *Pseudopus* sp.), and snakes (*Natrix tessellata*, *Natrix natrix*, *Coronella austriaca*, *Zamenis longissimus*).

## Results and Discussion

The taxonomical composition of the herpetofaunal assemblage is consistent with those reported from other sites of Central and Eastern Europe and western Romania (Szyndlar, 1991a, b; Venczel, 2000). The identified taxa augment the vertebrate taxon lists of the Tetoiu Formation and the “Copăceni beds”, and help document reptile and anuran presence in the Early Pleistocene vertebrate assemblages of the Dacian Basin.

The herpetofaunal assemblages from the two sites include thermophile taxa, all mentioned for the first time for the region, some of them still present in the Romanian fauna. However, more research is needed in order to cover the entire timespan of the Pleistocene, and follow the evolution of Pleistocene herpetofaunas in southern Romania.

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## Acknowledgments

This work was supported by a grant of the Romanian Ministry of Research and Innovation, CNCS – UEFISCDI, project number PN-III-P1-1.1-PD-2016-0848, within PNCDI III (to Ş.V.).

