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The integrative approach disentangles the evolution of *Natrix tessellata* (Ophidia: Natricidae)

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**ABSTRACT**

The Dice snake, *Natrix tessellata* (Laurenti, 1768) represents a phylogenetic complex of genetically distinct evolutionary lineages, which has colonized three continents ranging from Europe, Asia to Northeast Africa. Through the whole distribution area nine phylogenetic lineages were detected and only two of them, European and Greek, occur in continental Europe. European clade has a huge dispersal area from Western to Eastern Europe and on south extends to Western Anatolia. On the other hand, Greek clade is isolated in relatively small area in the Balkan Peninsula. Morphological variability is examined mostly at the local level and there is no detailed research focused on geographic variation of morphological characters among all nine lineages. From the standpoint of osteology, cranial and postcranial skeleton of the complex has not been studied so far. Therefore, this research combines several methodological approaches like genetics, external morphology and osteology to find out differences between two continental lineages in Europe. In general, 322 own and published mtDNA sequences were compared, metric and meristic characters of 462 alive individuals or museum specimens from the whole range (370 individuals of *european* and *greek* clades) were examined, as well as differences in cranial anatomy (18 examined skulls) in two clades from continental Europe were characterized. Although the results of external morphology did not show any significant differences among the lineages, genetical and osteological differences between European and Greek clades were highly significant. On the basis of integrative approach, we claim that isolated Greek clade has its own long-term evolutionary history.

**Key words:** biogeography, morphological variability, phenotype, genotype, Balkan Peninsula
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