



## Phylogenetic relationships of the gecko genus *Carinatogekko* (Reptilia: Gekkonidae)

JAN ČERVENKA<sup>1</sup>, DANIEL FRYNTA<sup>2</sup> & LUKÁŠ KRATOCHVÍL<sup>1,3</sup>

<sup>1</sup>Department of Ecology, Faculty of Science, Charles University in Prague, Viničná 7, CZ-128 44 Praha 2, Czech Republic.  
E-mail: jancerv@email.cz, lukkrat@email.cz

<sup>2</sup>Department of Zoology, Faculty of Science, Charles University in Prague, Viničná 7, CZ-128 44 Praha 2, Czech Republic.  
E-mail: frynta@centrum.cz

<sup>3</sup>Corresponding author

### Abstract

The gecko genus *Carinatogekko* comprises two species endemic to the foothills of the Zagros Mountains, in Iran and Iraq. Both species are poorly known and to date they are known only from very few records. The phylogenetic affiliation of the genus has been only hypothesized. The aim of this study was to clarify the phylogenetic relationships of the genus by analyzing partial sequences of the mitochondrial 12S rRNA and cytochrome *b* genes. All phylogenetic analyses performed support placing the genus *Carinatogekko* within the genus *Mediodactylus*. Taxonomic relevance of both species of the genus *Carinatogekko* based on morphological characters is discussed along with nomenclatural implications of our findings.

**Key words:** *Cyrtopodion*, lizards, *Mediodactylus*, mtDNA, phylogeny

### Introduction

The geckos of the genus *Carinatogekko* Golubev et Szczerbak, 1981, endemics of the foothills of the Zagros Mountains of Iran and Iraq, remain enigmatic and poorly known lizards despite being described nearly 40 years ago. The history of their discovery and classification is rather complicated and quite typical for geckos of the Middle East. The genus *Carinatogekko* currently includes two species. The *Carinatogekko* geckos have long been known only from the type localities with additional localities discovered only recently (e.g., Nazari-Serenjeh & Torki 2008). The earliest known specimen of *Carinatogekko heteropholis* (Minton, Anderson et Anderson, 1970), an immature female from scrub oak firewood forest of northeastern Iraq, was first erroneously determined by Reed and Marx (1959) as *Alsophylax persicus* Nikolsky, 1903. Minton *et al.* (1970) described the same individual as the holotype of the new species *Tropiocolotes heteropholis*. The second representative of the genus, *Carinatogekko aspratilis* (Anderson, 1973), was originally placed in *Bunopus* as *B. aspratilis*. The description was based on two tentatively immature female specimens from the southwestern Zagros foothills of Iran. Golubev and Szczerbak (1981) erected the genus *Carinatogekko* with the two above mentioned species. The diagnosis of the genus provided by Anderson (1999) is: all scales with the exception of intermaxillaries, nasals, chin shield and upper and lower labials strongly keeled; three nasal scales contact nostrils; digits weakly angularly bent, clawed, not dilated, not webbed nor ornamented, with keeled transverse subdigital lamellae; dorsal pholidosis heterogeneous, small juxtaposed scales intermixed with tubercles; pupil vertical; tail segmented, caudal tubercles with bases in middle of each segment, not in contact with one another, separated from posterior margin of segment by ring of scales. A diagnosis was also provided by Szczerbak and Golubev (1986).

Surprisingly, Golubev and Szczerbak (1981), the authors of the genus *Carinatogekko*, themselves hypothesized that a possible phylogenetic position of the genus *Carinatogekko* was inside their subgenus