



## New species of *Phrynocephalus* (Squamata, Agamidae) from Qinghai, Northwest China

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### Abstract

A new viviparous species of *Phrynocephalus* from Guinan, Qinghai, China, is described. *Phrynocephalus guinanensis* **sp. nov.**, differs from all congeners in the following combination of characters: body large and relatively robust; dorsal ground color of head, neck, trunk, limbs and tail brown with weak light brown mottling; lateral ground color of head, neck, trunk and tail light black with weak white-gray mottling in adult males, and green with weak white-gray mottling in adult females; ventral ground color of tail white-gray to black in the distal part of the tail in adult males, and totally white-gray in adult females; ventral surfaces of hind-limbs white-gray; ventral surfaces of fore-limbs brick-red in adult males, and white-gray in adult females; ventral ground color of trunk and head black in the center but, in the periphery, brick-red in adult males and white-gray in adult females. *Phrynocephalus guinanensis* **sp. nov.** typically uses desert habitats, whereas *P. vlangualii*, a species closely related to the new form, uses a variety of arid and semi-arid habitats. It is the nineteenth species of *Phrynocephalus* recorded from China.

**Key words:** *Phrynocephalus guinanensis* **sp. nov.**, Agamidae, Northwest China, new species, morphological description

### Introduction

Toad-headed lizards of the genus *Phrynocephalus* Kaup (Family Agamidae), currently including more than forty species, are widely distributed in desert, arid or semi-arid regions in Central and West Asia [westwards to southern Jordan (*P. arabicus* Anderson)] and North-Northwest China [eastwards to Hebei Province (*P. versicolor* Strauch)] (Zhao 1999). Eighteen species have been found in China, twelve of which are small-sized [often smaller than 60 mm adult snout-vent length (SVL)], and the remaining six are medium or large-sized species (Zhao 1979, 1997a, 1997b, 1999; Wang *et al.* 2002; Xiong *et al.* 2005). Toad-headed lizards found in China are either oviparous or viviparous, with all the six currently known viviparous species (*P. erythrurus* Zugmayer, *P. forsythii* Anderson, *P. putjatae* Bedriaga, *P. theobaldi* Blyth, *P. vlangualii* Strauch and *P. zetangensis* Wang, Zeng & Wu) endemic to China (Zhao 1999).

During our first collecting trip to Northwest China in 2004, we collected specimens of a viviparous species of *Phrynocephalus* from sand dunes in Guinan County, Qinghai Province, which could not be assigned to any known species. The lizard is similar to *P. vlangualii* in terms of body size and shape, and has been probably included within the *P. vlangualii* species complex, including specimens of *P. putjatae* from Tianzhu and Guide (Pang *et al.* 2003). Our unpublished molecular data show that the lizard is phylogenetically closer to the *P. vlangualii* species complex than to other Chinese toad-headed lizards. However, careful examination of specimens collected since 2004, as well as morphological comparison of the unidentified lizard with *P.*