

Morphological variability of the Spur-thighed Tortoise, *Testudo graeca*, in the Nemrut Volcano (Eastern Turkey)

(Testudines: Testudinidae)

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Abstract. Morphological variation among a population of *Testudo graeca* from two neighbouring sites of the Nemrut Volcano has been analysed, and six morphometric characters have been assessed in 305 specimens, mainly adults. This population shows remarkable morphometric differences. Macrohabitat differences among sites have been involved to explain this variability in the light of the huge morphological plasticity of this wide-ranging taxon.

Key words. Morphology, size, *Testudo graeca*, Nemrut Volcano, Eastern Turkey Middle East.

Introduction

The Spur-thighed Tortoise, *Testudo graeca* Linnaeus, 1758, is a medium-sized terrestrial turtle whose distribution extends over part of three continents, Europe, Africa and Asia, from the Moroccan Atlantic coasts to Eastern Iran and from the Danube Delta to the Libyan Cyrenaica Peninsula. In the last decade, this tortoise has been split into a complex of species whose validity is highly questionable. PARHAM et al. (2006) suggested that the results of this methodological approach – a meaningful example of taxonomic inflation, i.e. the promotion of many subspecies to species rank – can lead to unfavourable implications for management efforts within a group that is of conservation concern: many populations are on the verge of extinction owing to habitat destruction and to being over-exploited for food and for the pet trade (ISAAC et al. 2004, MACE 2004, TÜRKOZAN et al. 2008). For a detailed criticism of PARHAM et al. (2006), see WERNER (2009). Over-split taxonomic application based on morphological and morphometric data has been tempered by genetic evidence, but a certain confusion still persists due to the coexistence of competing taxonomic schemes based on different data sets collected by separate groups of researchers. As a result, there is no consensus over considering Asian *T. graeca* populations as a single species or as a group amounting to 17 nominal subspecies (FRITZ & HAVAŠ 2007), of which at least six are known for Turkey: *T. g. anamurensis* Weissinger, 1987, *T. g. antakiensis* Perälä, 1996, *T. g. armeniaca* Chkhikvadze & Bakradze, 1991, *T. g. ibera* (Pallas, 1814), *T. g. perses* Perälä, 2002 and *T. g. terrestris* (Forskål, 1775) (TOK 1999, PERÄLÄ et al. 2002, TAŞKAVAK et al. 2002, GUYOT 2004, PARHAM et al. 2006, FRITZ et al. 2007, TÜRKOZAN et al. 2003, 2004, 2005, 2010). However, morphometrically distinct populations from northern and southern Turkey, corresponding to the “*ibera*” and “*terrestris*” mitochondrial clades (mt clades) might be considered as full subspecies (FRITZ et al. 2007).

During zoological field expeditions to the Middle East by the Società Romana di Scienze Naturali (SRSN), *T. graeca* was discovered (2000, 2005) and subsequently monitored (2008)