



Two new sympatric species of freshwater *Gammarus* (Crustacea: Amphipoda) from Southern Zagros Region, Iran

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Abstract

Gammarus zagrosensis n. sp. and *Gammarus sepidannus* n. sp., both from *Gammarus pulex*-group, are described from Sepidan County, Fars Province. They inhabit mountainous springs and were found co-occurring in some localities. Many clear morphological differences were recognized, including the setation of the second antenna and pereopods, length of antennal gland cone, postero-inferior protruding lobe and postero-distal corner setation in the basis of P6–7, endopodite/exopodite ratios of uropod 3, dorsal elevation of urosomites, and setation of lower distal margin of epimeral plates 2 and 3. *Gammarus zagrosensis* is distinguished from *G. pseudosyriacus* by having setae on the distal segments of pereopod 5–7, a less pointed epimeral plate 2, posterior-inferior corner setae, and the longer setae on uropod 3. The closest species to *G. sepidannus* are *G. balutchi* and *G. lobifer*, the most evident differences of which are the eye size, setosity of first antennal peduncles and flagellum of second antenna, length of gland cone, and uropod rami length ratios. Comparison of the head cuticular micro-structures gives more arguments for separating the two new species from each other, as well as from the previously studied, related species.

Key words: Gammaridae, *Gammarus zagrosensis*, *Gammarus sepidannus*, Zagros, Fars, SEM, springs

Introduction

Freshwater amphipods of Iran are still poorly known. Recently, however, they started to receive some attention from taxonomists. After few works of S. Karaman (1934), Birstein (1945), Löffler (1956), Ruffo (1979), and Pesce *et al.* (1982), an expedition organised by G. Pretzmann, curator (1963–1994) of the Crustacean Collection of the Natural History Museum of Vienna, to Iran and Turkey in 1970–72 led to a taxonomic study by Mateus and Mateus (1990), with descriptions of some new species from both countries. Another sampling expedition in 1990s from NE to NW of Iran, combined with material from its central and southern regions resulted in the extensive publication of Stock *et al.* (1998), who reported more new species. Recently, some new efforts expanded these collections southwards to Central Zagros Region which brought to light three more species new to science (Khalaji-Pirbalouty & Sari 2004; 2006).

The present work is part of a wider study upon freshwater amphipods in the vast southern province of Fars (120,000 km²) in the Southern Zagros Region, started in 1999. It was shown that the province lies in a region where the mountain range ends gradually, producing several geographical and ecological clines, most clearly in altitude, water temperature, dissolved oxygen and salinity, in a series of isolated catchments areas (Zamanpoore, 2004). These clines and contrasts, especially in temperature, can theoretically have their own significant effects on biodiversity of the region. The existence of ecological contrasts, especially in temperature (Zaitchik *et al.*, 2007) in the Zagros Plateau, and its effects on the biodiversity has recently been emphasized (Noroozi, 2008) as well. The aim of this study is to describe two new species, both belonging to