



## Two new species of the genus *Niphargus* Schiödte, 1849 (Amphipoda, fam. Niphargidae) from the Frasassi cave system in Central Italy

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### Abstract

Two new subterranean species of the genus *Niphargus* Schiödte, 1849 (*Niphargus montanarius*, n. sp. and *N. frasassianus*, n. sp. (Crustacea, Amphipoda, Gammaridea, Niphargidae) from the Frasassi cave system in Genga, the Marche, Italy, are described and figured, and their taxonomic status within the genus *Niphargus* is discussed.

**Key words:** Crustacea, Amphipoda, *Niphargus*, taxonomy, subterranean waters

### Introduction

The genus *Niphargus* Schiödte, 1849 belonging to the family Niphargidae (Crustacea, Amphipoda, Gammaridea), contains over 300 known species and subspecies, and is widespread in subterranean waters throughout Europe. *Niphargus* species are found from England and Spain to Asia Minor and the Near East. Most of these taxa are endemic and restricted to relatively small areas, typically to karstic areas with caves and underground pools. In Italy alone there are nearly 60 *Niphargus* (sensu auct.) taxa known, with over half of these endemic to Italy [G. Karaman & Ruffo (1986); G. Karaman (1993); G. Karaman (1994), Ruffo (1995)].

Earlier collections from the Frasassi cave complex yielded one species (*Niphargus ictus*, described by G. Karaman (1986) (Grotta del Fiume, 8 Ma)(=Marche). The present paper describes two more that were collected during intensive studies of the caves and their fauna, organized by the Osservatorio Geologico di Coldigioco, near Airolo (Central Italy).

### Material and methods

The samples were collected from the subterranean waters using small hand nets, initially preserved in 98% ethanol and later transferred to 70% ethanol. Specimens were examined and dissected using a Wild M20 stereomicroscope and drawn using a camera lucida attachment. Small appendages (mouthparts, uropods, telson) were temporarily mounted in lactic acid, and later transferred to liquid of Faure. The body length of specimens examined was measured by tracing individual's mid-trunk lengths (tip of the rostrum to end of telson) using a camera lucida. All illustrations were inked manually.