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Two new sympatric *Knipowitschia* species (Teleostei: Gobiidae) from an eastern Mediterranean coastal lake—examples of different dispersal patterns?

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Abstract

Two new species of the genus *Knipowitschia*, *Knipowitschia byblisia* **sp. nov.** and *Knipowitschia caunosi* **sp. nov.**, are described from the coastal Lake Köycegiz, southwest Turkey. *Knipowitschia byblisia* **sp.nov.** is placed in a group of species with reduced cephalic lateral-line canals and reduced squamation. This species is characterized by the presence of axillary and caudal peduncular patches of scales, by a distinct reduced head canal system with only the postorbital section of the supraorbital canal developed and with longitudinal and transversal rows of free neuromasts in the interorbit. *Knipowitschia caunosi* **sp. nov.** is placed in a group of species with a fairly complete head canal system and with scales continuously extending along lateral midline from the axilla to the caudal peduncle. This species is characterized by long transverse rows of free neuromasts on the nape and on the cheek, by a characteristic pattern of the preorbital series of free neuromasts with the anteriormost row lacking and with a reduced number of transverse suborbital rows. Both species are isolated and their distributions restricted to a small brackish lake in the west of the Anatolian south coast. This record represents the southern and easternmost of the genus *Knipowitschia* in the Mediterranean region. The origin of these two species is discussed.

Key words: Gobiidae, *Knipowitschia*, new species, brackish lake, dispersal, Mediterranean region, Turkey

Introduction

Three species of the genus *Knipowitschia* Iljin are known from continental Aegean Anatolia, the euryhaline *Knipowitschia caucasica* (Berg) and the two freshwater species *K. ephesi* Ahnelt and K. *mermere* Ahnelt (Ahnelt 1995; Van Neer *et al.* 1999; Miller 2004). Contrary to *K. caucasica* the other two species are endemic and only known from isolated freshwater habitats (Ahnelt 1995; Ahnelt *et al.* 1995; Kovacic 2005).

The River Degrimen was believed to be the southernmost limit of the distribution of *Knipowitschia* species in western Anatolia (Ahnelt 1995; Bianco *et al.* 1996). But a sample of gobies from Lake Köycegiz deposited in the Ichthyological Collection of the Zoologisches Museum für Naturkunde der Universität Hamburg document for the first time the occurrence of the genus *Knipowitschia* in the transition from the Aegean region to the eastern Mediterranean. These specimens represent the southern and easternmost record of *Knipowitschia* in the Mediterranean region and the first on the southern coast of Anatolia.

Material and methods

Counts and measurements follow Miller (1988). Measurements were taken with the aid of an electronic calliper. The terminology of the cephalic lateral-line canals follows Ahnelt (2001), those of the canal pores Akihito (1986). Free neuromasts are listed by innervation categories for Gobiidae (Ahnelt & Bohacek 2004). The terminology of the free neuromasts of the lateral-line system follows Sanzo (1911) except for the transversal oculoscapular row *tr* (Ahnelt 2001) and the transversal interorbital row *w* (Ahnelt *et al.* 2000). Because the topography of free neuromasts generally resembles that of *Knipowitschia caucasica* (Miller 2004) only the characteristic differences are described. Characters of the holotype are indicated by asterisks in counts and by brackets in measurements. Sex

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