

Feeding strategies of three *Neogobius* species in the Gomishan Wetland of Iran, South-east Caspian Sea

(Osteichthyes: Gobiidae)

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Abstract. For an analysis of the food habits of three *Neogobius* species in the Gomishan wetland, south-eastern Caspian Sea, 1335 stomachs were examined using a modification of the graphical Costello method to analyse stomach contents data. Based on this method, *Neogobius melanostomus* (Pallas, 1814) and *Neogobius fluviatilis* (Pallas, 1814) preferred Chironomidae, bivalves and amphipods while *Neogobius syrman* (Nordmann, 1840) mainly fed on Chironomidae, amphipods and fish. *N. melanostomus* fed on bivalves in summer more than other items, and in winter most of the diet consisted of arthropods. The most frequent food item in the stomach contents of *N. fluviatilis* was Chironomidae. *N. syrman* preferred fish in autumn and summer while Chironomidae were the most abundant food item in spring and winter.

Key words. *Neogobius melanostomus*, *Neogobius fluviatilis*, *Neogobius syrman*, food habits, Gomishan wetland, Iran.

Introduction

Gobiid fishes (family Gobiidae) play an important role in the general production of the Caspian Sea because of their species abundance and unexploited stocks. Of the 80 fish species known from the southern Caspian Sea, 10 are gobies (ABDOLI et al. 2009). The Gomishan wetland, located in the south-eastern part of the Caspian Sea, is regarded as the spawning, hibernation and nursery grounds of some major fish species of the sea (KIABI et al. 1999). Gobiid fishes are known to be massive consumers of food resources and as serious competitors for other species (CORKUM et al. 2004). In Iran, RAHMANI (1999) found that chironomids and Trichoptera were the most abundant items in the diet of *Neogobius melanostomus* (Pallas, 1814). GHELICHI (1999) found that *Neogobius fluviatilis* (Pallas, 1814) feeds exclusively on bivalves, while ALAVI YEGANEH & KALBASSI (2007) found amphipods as the dominant prey item of *N. fluviatilis*. In the light of these divergent results, we studied the diet of three species of *Neogobius* in the same study area, the Gomishan wetland in the Caspian region, and compared the food spectra and were able to draw conclusions on the feeding strategy of three sympatric gobiids.

Material and methods

Fish were collected from autumn 2006 to summer 2007 in the Gomishan wetland. The samples were caught by beach seine with 3 mm mesh size. Their stomachs were extracted and fixed in 10% formalin solution for later analysis. The fish were measured to the nearest mm and weighed