

Competitive Relations Between *Mnemiopsis leidyi* Agassiz and Anchovy Juveniles (*Engraulis encrasicolus* Nordm.) in Bulgarian Black Sea Waters

Veselina V. Mihneva^{1*}, Aleksandr N. Grishin², Konstantin R. Mihailov¹, Violeta N. Velikova¹, Georgy M. Daskalov³, Violin S. Raykov¹

¹ Institute of Fishing Resources, 4, Primorski Blvd., P.O.Box 72, 9000 Varna, Bulgaria, tel/fax: ++359 52 632066; E-mail: v_mihneva@yahoo.com

² UGNIRO, Kerch, Ukraine

³ CEFAS Laboratory, Lowestoft, UK

Abstract: Anchovy forms significant part of the near-shore ichthyofauna of the Bulgarian Black Sea coast during the warm months of the year and competes with ctenophore *Mnemiopsis leidyi* for food, as both species are zooplanktivorous predators and occupy similar spatial niches – surface waters layer with depth 25 m. Based on calculations of indexes of relative importance of different food items we aimed at identification of diet overlaps, which define the resource competition between anchovy juveniles and *Mnemiopsis*. In the summer diets of both predatory groups the cladocerans' representative *Penilia avirostris* dominates (55%-70%). The average daily ratio of ctenophores represents 0.73% of body weight in summer 2003-2004, whereas it is 17.87 % of body weight for anchovy. The ctenophore predation rate amounts to 2.31-3.74 % of the daily mesozooplankton C-biomass with maximum of 6.45 %, which reveals mitigated pressure on zooplankton community exerted by *M. leidyi* during the investigated period.

Key words: Planktivorous species, stomach content analysis, mesozooplankton consumption