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MNEMIOPSIS LEIDYI (CTENOPHORA: TENTACULATA) COMMUNITY STRUCTURE IN THE SOUTHERN CASPIAN SEA: DECADAL CHANGES

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Mnemiopsis leidyi has markedly altered plankton dynamics and disrupted the food web in the Caspian Sea region. This study compared 10-year changes in the population structure of *M. leidyi* in the southern Caspian Sea by comparing seasonal samples collected in two years (2011 and 2021), along three transects. Sampling was conducted across three depth layers-surface (0–10 m), middle (10–20 m), and deep (20–30 m) to study vertical distribution patterns. The results showed that Neka had the highest abundance of ctenophores among other sites with the highest abundance of the *M. leidyi* being observed in the larval stage in both periods. There was a marked decrease in abundance for *M. leidyi* throughout all stages in 2021, particularly in the middle and deep layers at the Babolsar and Neka sites. Vertical patterns showed that *M. leidyi* was concentrated in the upper layer (0–10 m), where temperature, oxygen, and food resources were most favorable. However, seasonal peaks shifted from summer dominance in 2011 to autumn in 2021. Seasonally, only the autumn exhibited a significant difference in *M. leidyi* abundance between these two periods. This suggests potential seasonal variations in the factors influencing the ctenophore population dynamics due to changes in temperature during these seasons. The appearance of ctenophore, *Beroe ovata,* global warming and environmental degradation has been identified as possible contributors to the decline of *M. leidyi* population.

Keywords: Southern Caspian Sea, community structure, abundance, environmental factors, invasive species, ctenophore

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