

**Growth and mortality model of Chacunda gizzard shad *Anodontostoma chacunda* (Bleeker, 1852) in Tarakan waters, North Kalimantan, Indonesia**

**ABSTRACT**

Salim G, Indarjo A, Mujiyanto M, Sugianti Y, Anggoro S, Ransangan J, Nawir D, Meiryani, Hartinah S, Nurjanah, Jose AES, Dewi R, Balqis Z, Arief MCW, Putri MRA, Rahman A. 2024. Growth and mortality model of Chacunda gizzard shad *Anodontostoma chacunda* (Bleeker, 1852) in Tarakan waters, North Kalimantan, Indonesia. *Biodiversitas* 25: 770-780. The Chacunda gizzard shad *Anodontostoma chacunda* (Bleeker, 1852) possesses numerous spines and is economically valued, with prices ranging from USD 0.64- 0.96/kg. This study aimed to analyze the growth and mortality models of the *A. chacunda* from the waters of Tarakan Island. The research was conducted over four months, from July to October 2022, using a quantitative descriptive method. Sampling was performed using purposive sampling, with 20 sessions over four months, each yielding 40-50 individuals. The results showed a total sample of 789 fish, with 463 males and 326 females, yielding a males-to-females ratio of 1.42:1. The allometric model revealed negative allometry with a body shape from the condition index indicating leanness. The Von Bertalanffy model shows that the asymptotic length of males is higher than that of females with the growth rate of females being higher than that of males. In reaching the asymptotic length, the males is faster by reaching the age of 47 days compared to the females reaching the age of 37 days. The numerical data of total mortality, fishing mortality and natural mortality of females is higher compared to males, but for exploitation rate in males and females has the same value is 0.91. The current exploitation rate of *A. chacunda* was higher than the optimum exploitation rate ( $E=0.5$ ), showed that over-exploited *A. chacunda* requires sustainable management.