ISSN: 1391-8796
Proceedings of 7th Ruhuna International Science & Technology Conference
University of Ruhuna, Matara, Sri Lanka
January 22, 2020

Analyses of selected stock parameters of *Dasyatis zugei* (Müller & Henle, 1841) in Gulf of Mannar, Sri Lanka

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The pale edged stingray, *Dasyatis zugei* (Müller & Henle, 1841) is one of the major non-target species caught in the bottom-set crab nets used for catching Blue swimming crab (*Portunus pelagicus*) in Gulf of Mannar. Stock assessment of *D. zugei* will be needed to determine management measures to reduce its accidental catch. Hence, this study aimed at estimating the selected stock parameters of *D. zugei* in Gulf of Mannar. In total, 1,404 and 676 individuals were collected from 4.5-5.5-inch mesh-sized crab nets respectively in two landing sites Vankalai and Thalvupadu during September 2018 – July 2019. Disc width of all individuals was measured (mm), body weight was weighed (g) and sex was determined. Sex ratio of catch was 1:1.33 (male: female). Disc width ranged from 115 mm to 272 mm with the mean (±SD) and median of 174.86 ± 22.28 mm and 175.00 mm respectively. Disc width-weight relationship showed Log W = -1.906 + 0.1347 log W_D for male and Log W = -2.774 + 2.286 log W_D for female. The results show negative allometric growth (b<3) for both male and female of *D. zugei*. This concludes that *D. zugei* can grow faster in length than in weight. The stock status of *D. zugei* was determined using Length Based Spawning Potential Ratio model available in Barefoot ecologist toolbox and the result shows the Spawning Potential Ratio as 13%. The ratio ranges between 0% - 20%, it indicates that the population is overexploited. Results of the current study suggest that *D. zugei* population in the study area is over exploited. In conclusion, *D. zugei* population in Gulf of Mannar needs to be managed for a sustainable fishery.

Keywords: *Dasyatis zugei*, pale edged stingray, non-target species, stock status and sustainable fishery

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