

A note on the *Odonus niger* fishery along the Muttom- Colachel coast

S. Surya^{1*}, E.M. Abdussamad², J.H. Kingsly¹, M.V. Dipti¹, Livi Wilson², Shoba Joe Kizhakudan² and B. Santhosh¹

¹Vizhinjam Regional Centre of ICAR-Central Marine Fisheries Research Institute, Vizhinjam P.O., Thiruvananthapuram – 695 521, Kerala

²ICAR-Central Marine Fisheries Research Institute, Kochi-682 018, Kerala

*E-mail: revandasurya@gmail.com

Odonus niger fishery has emerged prominently over the last 5 years becoming an economically significant seasonal resource for local fishers of Muttom- Colachel coast of Tamil Nadu. The fishery has exhibited significant landings, starting in late August each year, with expectations of continuing into January, similar to the trend observed in the previous

year. The fishing is conducted between 7.46 °N latitude and 74.34 °E to 78.2 °E longitude, about 60 nautical miles (nmi) offshore from the Muttom –Colachel coast. The targeted fishing grounds are situated at depths of approximately 30 meters, where the species is found in dense shoals. Fishing trips typically last 4 to 6 days, with trawlers returning



to coast with their catch and the harbours have developed a systematic landing mechanism with around 20 trawlers land their catch daily. Trawlers operated for the fishery are approximately 115 ft in length with each boat carrying a crew of 20 to 22 members who perform labour intensive fishing operations over multiday trips. Fishing is intensive during the season, with each day comprising three to four hauls per boat. The catch per haul ranges from 100 to 300 boxes, with occasional hauls reaching up to 500 boxes. Each box weighs 25- 35 kg, contributing to a total landing of 2000 – 2500 boxes per trip equivalently to approximately 50 to 70 metric tons. Among the catch, *O. niger* constitutes more than 95% of the total landings highlighting its significance in the fishery. Although *O. niger* dominates the landings, along with that, commercially important food fish such as snappers, pig face breams, monocanthids, cuttlefish, scads etc were landed and fetch an added benefit to them. Fishery established itself as a recurring seasonal phenomenon during August to January every year and provide substantial income to the fishers. However, the fishery is notably absent in subsequent months, as *O. niger* becomes unavailable in the same fishing grounds. This seasonal pattern, coupled with shifts in the catch composition, highlights the dynamic nature of the fishery in this region and deserves further study. During the off season, fishers opined that, from the same fishing ground, the landings comprised of species such as Nemipterids, Cuttlefish and other shoaling demersal resources. The transition of fishery may be attributed to changes in environmental conditions such as temperature, currents, or prey species availability which may influence the seasonal movement or dispersal of *O. niger* shoals. The absence of shoals in the post January months reflects its highly seasonal nature. The emergence of new resources in the same location indicates a shift in the ecosystem resource composition. The fishery also experienced noticeable changes in the size composition since its emergence approximately five years ago. According to fishers, the average size of the fish landed during the initial years was significantly larger compared to the sizes observed in recent years. The minimum and maximum length of fish landed during 2024 was 85 mm and 195 mm respectively and

the total weight varies from 39 to 145 g. Almost all fishes were in indeterminate stage to identify the sex. Over the years the consistent targeting of fish during its seasonal aggregations may have reduced the proportion of larger individuals in the population. From the landings observation, it is clear about its recruitment overfishing where the capture of younger, immature fish limiting the population's ability to replenish itself. Size decline has an implication that a declining trend often signals overexploitation, as fewer individuals are reaching maturity and contributing to reproduction. Single trip of a vessel yielding 2000 to 2500 boxes of catch where each box weighing 30-35 kg is marketed. The price per kilogram of fish ranges from ₹ 7–10 depending up on the market demand and supply conditions. The fish is used as raw material for the fish meal industry, with most of the catch transported to processing plants at Mangalore. Fishers value this seasonal fishery, as it provides a stable income from fishing trip based earnings. Despite the relatively low market price per kilogram, the landing volumes ensure that every crew member earns a reasonable share from each trip, allowing them to sustain their livelihoods. Fishers emphasize that, *O. niger* fishery has alleviated financial challenges during its active months. The abundant shoals ensure good catch enabling them to cover their operational expenses. In addition to direct income for the fishers, the fishery supports a range of ancillary activities, including fish handling, processing and transportation which creates employment opportunities for others also.

So, to ensure long term sustainability, judicious exploitation of resource is critical. Stock monitoring is crucial for assessing population trends, size composition and recruitment dynamics enabling informed decision making. Ecological considerations must be integrated into the management plan to evaluate the predatory nature of fish on other species and prevent ecosystem imbalances. Last but not least fisher livelihood sustainability is imperative, with measures designed to minimize economic disruptions while promoting sustainable practices.