

Fishery and biology of Tomato hind, *Cephalopholis sonnerati* at Chennai

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The groupers form regular fishery in Chennai, comprising 2% to 3% of the perches landed in Kasimedu Landing Centre. They are landed by hooks and line, gillnets and trawl nets. The mechanised trawler fleet (multiday thangal trawlers) operated from Pudupattinam in the south to Nizampattinam in the north at 10-100 m depth to a distance of 50-60 km from the shore is a significant contributor. Sixteen species of groupers were recorded from Kasimedu landing centre, namely, *Cephalopholis formosa*, *C. sonnerati*, *Epinephelus areolatus*, *E. bleekeri*, *E. chlorostigma*, *E. coioides*, *E. epistictus*, *E. faveatus*, *E. heniochus*, *E. latifasciatus*, *E. longispinis*, *E. malabaricus*, *E. polyphemadion*, *E. radiatus*, *E. stictus* and *E. undulosus*. The head of large groupers are kept in baskets and sold separately in the market. The *Cephalopholis sonnerati*, commonly known as Tomato hind or Tomato rock cod forms regular fishery at Kasimedu Fisheries Harbour, Chennai. Locally called 'thakkali kalava' or 'sivappu kalava', *Cephalopholis sonnerati* was first formally described as *Serranus sonnerati* in 1828 by French zoologist Achille Valenciennes (1794-1864) with the type locality given as Puducherry in India. (<https://www.inaturalist.org/taxa/97004-Cephalopholis-sonnerati>)

Species composition studies during 2014-2018 showed that, *Cephalopholis sonnerati* dominated the grouper fishery during 2014-15 and 2016-17. During 2014-15, *Cephalopholis sonnerati* dominated the fishery with 40.9% of the grouper catch followed by *Epinephelus latifasciatus* (20.4%), *E. radiatus* (9.3%), *E. longispinis* (7.2%) and *E. coioides* (1.8%). During 2015-16, *Epinephelus malabaricus* dominated the grouper fishery with 42.8% of the grouper catch followed by *E. undulosus* (20.7%), *E. radiatus* (17.8%), *Cephalopholis sonnerati* (17.4%) and *E. epistictus* (1.3%). During 2016-17, *Cephalopholis sonnerati* dominated the fishery with 30.0 % of the grouper catch

followed by *Epinephelus areolatus* (23.0 %), *E. longispinis* (14.9 %), *E. radiatus* (13.6 %) and *E. stictus* (5.5 %). During 2017-18, *Epinephelus areolatus* dominated the catch with 23.0 % followed by *Cephalopholis sonnerati* (16.1 %), *E. radiatus* (13.3 %), *E. epistictus* (10.4 %), *E. latifasciatus* (10.3 %), *E. longispinis* (9.3 %), *E. bleekeri* (8.4 %), *E. undulosus* (6.4 %), and *E. chlorostigma* (2.7 %).

Based on 164 specimens of *Cephalopholis sonnerati* collected from Kasimedu Fisheries Harbour during the 2014-2017 period, the length of the fish ranged from 120 mm to 400 mm and weight ranged from 31 g to 980 g. Females dominated the fishery (49.4%), followed by immature fish (42.1%) and males (8.5%). Among females, immature females constituted 91.4% stages while all the males were immature. The male: female ratio was 1:6.1. Empty stomachs were dominant (95.1%) and *Secutor ruconius* and *Nemipterus* sp. were noticed in the stomachs with food content. Due to its attractive appearance and taste, this fish has good export market, as well as local demand where catches are sold at ₹ 300-400 per kg. Due to market demand exploitation of juveniles is also very high forming almost 95% of the catch. Hence, suitable fisheries management plans are needed to ensure sustainable fisheries.

