

Occurrence of *Scomberoides lysan* (Forsskal, 1775) (Pisces: Carangidae) in Relation to Ovarian Development

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Abstract: The present study was carried out to understand the occurrence of maturity stages of double spotted queen fish *Scomberoides lysan* in the waters around Jaffna Peninsula. These are economically important food fishes particularly used for dry fish production in Sri Lanka and also used in sport fishing. The knowledge on the reproductive biology by identifying the life stages in relation to the area of occurrence could be the most important parameter in the management of that species. A total number of 1072 weekly random samples were collected from the commercial catches at Point Pedro, Delft, Paasaiyoor, Kurunagar, Ponnalai and Karainagar during January 2010 to December 2011. Microscopic staging system used in the histological analysis of *S. lysan* ovary expressed seven ovarian stages such as chromatin nucleolus stage (I), perinucleolus stage (II), cortical alveolar stage (III), yolk globule stage (IV), previtellogenic stage (V), migratory nucleus stage (VI), and post ovulatory follicular stage (VII); and the developmental stage categorized as immature (I & II), maturing (III), mature (IV & V), spawning (VI & VII) and spent/resting stage (I & VII), macroscopically. Among all sampling sites Paasaiyoor (100%), Ponnalai (100%), and Kurunagar (90%) were dominated by immature stages. Maturing stages of females found in Kurunagar, Karainagar, Point Pedro and Delft. Mature stages of females only found in Point Pedro and Delft. Spawning stages of females found only in Point Pedro and Delft. Resting stage of few females was recorded in Point Pedro area. *S. lysan*, male and female less than 40cm in total length were available only in the Jaffna lagoon. Fish with greater lengths (>50 cm in Total length) were available only in Point Pedro and Delft region. These results express that the lagoon area are distributed only by immature and maturing stages meanwhile matured and spawning stages occurs in the open sea including Delft, Karainagar and Point Pedro. The knowledge gained from the present study would be a fundamental addition to ensure the sustainable fishery.

Keywords: Histological Analysis, Occurrence of Maturity Stages, Ovarian Developmental Stages, *Scomberoides lysan*, Total Length