Stock structure of *Amblygaster sirm* (Walbaum, 1792) distributed in the coastal waters in Sri Lanka

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Amblygaster sirm (Spotted Sardinella) is one of the most important fish in small pelagic gill net fisheries in Sri Lanka. Due to its high nutritional value, affordable price and taste, it is a popular protein source among Sri Lankans. At present, the high demand for the fish has caused overfishing and the fish stocks are in a declining trend. To maintain and manage healthy fish stocks, stock identification is essential. As such, genetic stock identification can be used as an efficient alternative to conventional stock identification methods. Sri Lanka faces two distinct monsoons namely South East and North West which process different ocean currents in different directions. Since *A. sirm* is a migratory fish with oceanic currents, there is a doubt whether the stocks of *A. sirm* distributed in the West and East coast of the country belong to a single stock or two stocks. This is a very vital aspect to manage the fishery and present study was carried out to discover the stock structure of *A. sirm*. Samples were collected from ten landing sites around Sri Lanka to represent the coastal area around the country. Further, samples from around the country collected by the RV Dr Fridtjof Nansen Ecosystem Survey were also included. Total DNA was extracted by using Qiagen's DNeasy Blood and Tissue kit. The portion of the mitochondrial cytochrome b (cyt-b) gene was sequenced. Sequences were analyzed by using MEGA, Bioedit and DnaSP softwares. Multiple sequence analysis results showed a conserved nature of cyt-b sequence region among individuals. In addition, fifteen single nucleotide polymorphism (SNPs) sites were recorded with sixteen haplotypes. The individuals were clearly divided into three phylogenetic groups. However, in all groups individuals collected from East and West coastal regions were grouped together. Therefore, study concluded that *A. sirm* population distributed in Sri Lanka should be considered as one stock in future management decisions.

Keywords: *Amblygaster sirm*, genetic stock identification, SNPs, RV Dr. Fridtjof Nansen Ecosystem Survey

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