

# Indian oil sardines's genome decoded

**KOCHI:** In a major breakthrough in marine fisheries research, a team of scientists at the ICAR-Central Marine Fisheries Research Institute (CMFRI) has decoded the whole genome of the Indian oil sardine, a popular food fish.

This is the first time that the genome of a marine fish species from the Indian subcontinent has been decoded, a CMFRI statement said here.

CMFRI Director Dr A Gopalakrishnan described this development as a 'milestone' in Indian marine fisheries, saying that the decoded genome will be a valuable resource for understanding the biology, ecology and evolution of the oil sardine (*Sardinella longiceps*).

"This critical genome data could be used to improve the management strategies for the conservation and sustainable utilisation of this fish," he said.

The decoded genome is 1.077 Gb in size and contains a total of 46316 protein coding genes. This landmark research accomplishment was achieved through the cutting-edge Next Generation Sequencing technology by a group of researchers led by Dr Sandhya Sukumaran, Principal Scientist at Marine Biotechnology division of the CMFRI. This research has been published in the high-impact journal Scientific Data of the Nature Group.

Indian oil sardine is a vital fisheries resource in the Indian



**A sardine fish seller in Kochi on Thursday**

subcontinent, contributing substantially, approximately 10 per cent, to the total marine fisheries industry in India.

"This fish is a trans-boundary resource and the whole genome information can also be utilised for certification of the fishery and identification of the origin of catch for monitoring clandestine trade and tracking the movement of this fish," Dr Gopalakrishnan said.

Small pelagic fishes like the Indian oil sardines can be considered as model organisms to study the climatic as well as fishing impacts on the Indian Ocean resources, as they respond to variations in environmental and oceanographic parameters, he said.

Sardines are an ecologically key part of the marine ecosystem, as they form an intermediate link in the food web.