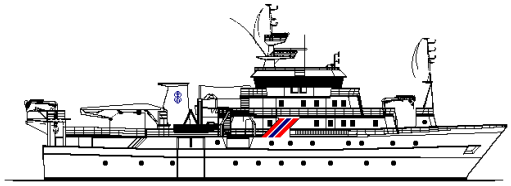
NANSEN PROJECT



Country: Mauritius

Research vessel: R/V DR. FRIDTJOF NANSEN

Survey number: 2010410

Number of days: 16

General objectives: Cover the continental waters around Mauritius and the southern part of the Mascarene to study pelagic fish resources and the pelagic ecosystem

	Port	Date	Coverage	Specific objectives
Departure	Port Luis	7 December	Mauritius And Southern Mascarene Plateau	• To determine the distribution and abundance of small pelagic fish resources along the coast of Mauritius and the in the continental shelf waters of Southern Mascarene using acoustics methods and a systematic grid survey strategy. • To use regular midwater trawls on target fish aggregations for species composition, biological information and genetic material of selected small pelagic fishes for fisheries resource assessment purposes. • To establish the distribution, abundance and composition of other organisms at a number of trophic levels along the shelf. (Phytoplankton, zooplankton, cetaceans and sea birds) • To establish, as far as possible, the productivity, biodiversity and biomass of the pelagic ecosystem. • To investigate mesopelagic and, where bottom-trawlable conditions exist, spot check demersal fish species diversity and abundance. • Where possible, link various sources of energy and nutrition to different food-web compartments. • Capacity building of SWIOFP and ASCLME trainees and young scientists.
Arrival		21 December		

Cruise leader: Tore STRØMME

Participants:

Ministry of Fisheries & Rodriguez, Mauritius: Poornah Singh SREEKEESSOON, Zahirah DHURMEEA, Luvna CAUSSY, Pushpa SEEPAUL, Veemala CHELUMBRUN, Vinesh EMRITH, Vyoumesh KAWOL

Seychelles Fishing Authority, Seychelles: Sabrena LAWRENCE

Mauritius Oceanography Institute, Mauritius: Vishwakalyan BHOYROO

Kenya Marine and Fisheries Research Institute, Kenya: Emmanuel Kakunde MBARU

Tanzania Fisheries Research Institute, Tanzania: Robert Jeremiah KAYANDA

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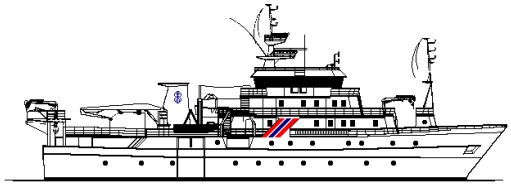

Oceanographic Research Institute, Durban, South Africa and South West Indian Ocean Fisheries Project: Johan GROENEVELD
Institute of Marine Research, Norway: Tore STRØMME, Oddgeir ALVHEIM, Ole Sverre FOSSHEIM, Terje SVOREN

Summary of the results:

The waters between Mauritius and the Mascarene have also been covered in a previous survey with “Dr. Fridtjof Nansen”, in October 2008. The area covered during the two surveys were similar up to and including the Nazareth Bank, while in 2008 the survey included the whole of the Mascarene, including the Seychelles plateau.
The small pelagic fish was in 2010 estimated to 7 000 tonnes of which all is located on the Nazareth Bank. The similar estimate in 2008 was 3000 tonnes, but given the high patchiness of the recordings in both years one cannot conclude that the true abundance is higher in 2010 as compared to earlier. The low abundance of pelagic fish related to the rather big plateau of the Nazareth bank, confirms that the area generally has low productivity of pelagic fish, perhaps with some pockets of local stocks at the edges of the plateau in a few places. Surface waters are generally lacking nutrients for phytoplankton production to support major pelagic stocks and the limited primary production takes place subsurface between 80 and 100m depth where light is still sufficient for photosynthesis, making use of nutrients available at these depths. The abundance of demersal fish on the bank seems considerably higher as compared to the small pelagics, as registered by its acoustic traces. However it is not possible to quantify the abundance with the acoustic method.
The food chain from primary production to demersal predators does not seem to include small pelagic fish as an important link in this location. Mesopelagic fish, filter feeding both on phyto- and zoo-plankton during its nightly migration to surface, could possibly be a very important link for the demersal fish to get into the food chain in this location, thus replacing the ecologic function of small pelagic fish in more productive areas. The primary production may also be consumed by other type of filter feeders such as bivalves, tunicates and zooplankton, and then predated by the fish. Another important primary source of food for the demersal fish could be corals on the plateau.

Report: status: final References:

FAO-NORAD PROJECTNO: GCP/INT/003/NOR.CRUISE REPORT "DR. FRIDTJOF NANSEN". **Mauritius and Southern Mascarene: Pelagic Ecosystem Survey. SWIOFP/FAO Cruise 1, 2010. 6 – 21 December 2010. Final Draft Report.** Institute of Marine Research. Bergen, 2010.

Constraints/Comments:
DRAFT REPORT AVAILABLE