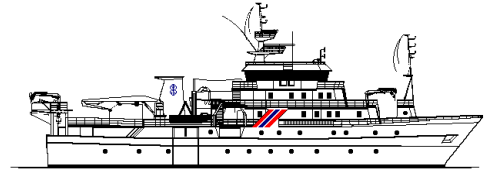


<b>Country:</b> South Africa				
<b>Research vessel:</b> R/V DR. FRIDTJOF NANSEN				
<b>Survey number:</b> 2009402				
<b>Number of days:</b> 13				
<b>General objectives:</b> Investigations on the early life stages of hake in the Orange Banks area				
	<b>Port</b>	<b>Date</b>	<b>Coverage</b>	<b>Specific objectives</b>
<b>Departure</b>	Walvis Bay, Namibia	21 February 2009	Namibia, South Africa, orange Banks area	<ul style="list-style-type: none"> <li>To investigate distribution and abundance of eggs and larvae of hake in the area from Hondeklip Bay to 28°S in Namibia (Orange Banks area) by plankton sampling in a systematic grid.</li> <li>To investigate vertical migration of juvenile hake (&lt;10cm length) in the same area when present by acoustic methods and trawl sampling.</li> <li>To collect biological and genetical samples of eggs, larvae and juveniles in order to later identify the species by genetics.</li> <li>To investigate the gut content of caught juvenile hake in order to better understand their feeding ecology</li> <li>To collect general hydrographical information using CTD-Sonde on each biological station and map the temperature, salinity and oxygen.</li> <li>To map the surface environment through continuous recording of temperature, salinity and fluorescence along the cruise track.</li> </ul>
<b>Arrival</b>	Cape Town, South Africa	5 March 2009		
<b>Cruise leader:</b> Erling Kåre Stenevik Cruise Leader, Marek Lipinski (Local Cruise Leader)				
<b>Participants:</b>				
<p>From MCM, South Africa: Marek Lipinski (teamleader), Sobahle Somhlaba          Interns, South Africa: Garth Walters, Jessica Escobar, Brendon Lee, Laurel Abels, Margit Wilhelm, Josafat K. Hiwana          From NatMIRC, Namibia: Kondja Amutenya, Matthew Hangome          From IMR, Norway: Erling Kåre Stenevik (cruise leader), Diana Zaera, Jan Frode Wilhelmsen, Terje Hovland</p>				
<b>Summary of the results:</b>				
<p>The Orange Banks area between Hondeklip Bay and north to 28°S was investigated for eggs, larvae and juvenile hake in the period 21 February and 5 March as a special study on the early life stages of the hake, particularly <i>M. paradoxus</i>. Very few eggs and larvae were found in the area concluding that this is not an area of active spawning this time of the year. No juvenile <i>M. paradoxus</i> smaller than 5 cm were caught during the survey while relatively high concentrations of juveniles (6-20 cm) were found, it is reasonable to assume that the juveniles at this time of the year already had passed the phase where they are entirely pelagic.          Juvenile <i>M. paradoxus</i> in the size range 6-20 cm performed vertical migration, being demersal during</p>				





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daytime and lifting up from the bottom at night. The smaller juveniles (6-10 cm) perform the most extensive vertical migrations, from being demersal (200 m depth) during daytime to the being in the upper 40 m during night time.

Gut analysis showed that the juveniles migrated towards the surface at night most likely in order to follow the vertical migration of prey species consisting of euphausiids, amphipods, *M. muelleri* and *L. hectoris*.

**Report: status: final References:**

Transboundary survey between Namibia and South Africa with focus on the juvenile stage of seep water hake

**Constraints/Comments:**

