

**RV HUMBOLDT 8301 CRUISE, FROM CALLAO TO PUERTO PIZARRO.
BIOLOGIC AND FISHERY PHASE, 12TH TO 24TH JANUARY 1983**

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ABSTRACT

During the summer 1983 a marine research cruise in order to know the biological condition of the demersal and pelagic resources on the continental North Peru shelf was carried out. The objective was to determine the impact of El Niño event on the distribution and abundance pattern of the main ichthyic resources. The biological samples and dates were obtained with the Humboldt research vessel in 44 stations of bottom trawl hauls and in each station, biological data and water samples to determine the plankton distribution were taken, and also abundance pattern and surface and bottom temperature, salinity and oxygen were registered. The Peru continental shelf in January 1983 was dominated by the *lumptail searobin*, *Prionotus stephanophrys*, associated with Inca scad, *Trachurus murphyi*; Lorna drum, *Sciaena deliciosa*; Pacific mackerel, *Scomber japonicus*; and Peruvian Pacific sardine, *Sardinops sagax*. The Peruvian hake represent only 6,6% of the total catch, it is concurrent with the trawl fishery in Paita, where the landings decreased in 1982 second semester, because this hake was only found on the edge of the north Peruvian shelf (Pimentel), too distant of traditional fishing area of Paita fisheries fleet. In conclusion, the distribution and abundance of Peruvian hake was affected for El Niño, but became favorable for other resources like the *lumptail searobin*. The biological conditions of the most important fishes were normal and all the species were in spawning season.

**REPRODUCTIVE CONDITION OF PERUVIAN ANCHOVETA
AND VINCIGUERRIA DURING THE SPRING 2002**

Sánchez E., Javier y Betsy Buitrón D.

ABSTRACT

Reproductive conditions of Peruvian anchovy *Engraulis ringens* and vinciguerria *Vinciguerria lucetia pacifici* were determined during Pelagic Research Cruise 0209-11. The evaluation area was between 4°S and 18°S. It was performed 82 positive trawls for anchovy and 36 for vinciguerria. The length of individuals of anchovy were between 10,5 and 17,0 TL (total length). Spawning fraction (SF) and atresia index (AI) per latitudinal degree were estimated. SF >20,0% for southern zones (15°S, 16 °S y 17 °S); AI had the highest value in 13°S (10,2%). Also, highest values of SF were found near the coast (inside 20 miles). Individuals of vinciguerria analyzed, had lengths from 4,0 to 7,5 cm. Southern areas presented more immature individuals (stage I, 63,7%) than the rest of the evaluated area, while northern area had more frequency of maturing individuals (stage II, 58,3%). Highest values of SF were in northern areas, inn 8°S (32,5%), 12°S (25,7%) y 5°S (20,7%). Anchovy presented spawning adults in an area restricted near the coast, with a reproductive behavior considered normal for the period of evaluation. Vinciguerria was found

reproductively active in its distribution zone, with highest values of SF in the northern area (5°S -12°S).

REPRODUCTIVE CONDITION OF PERUVIAN ANCHOVY DURING SUMMER 2003

Buitrón Díaz, Betsy; Cecilia Roque García y Ángel Perea de la Matta

ABSTRACT

The state of the anchovy oocyte development was observed between February 26 and April 6 2003, during the RV Olaya 0302-04 research cruise. Anchovy had a very low spawning fraction in almost the whole explored area. The exception was the zone between 10 and 7°S, where anchovy was spawning intensively. According to coast distance, anchovy had a higher spawning fraction near the coast (less than 20 nm from coast) and it was lower farther than 20 nm offshore.

SPATIAL DISTRIBUTION OF SPAWNING SCHOOLS AND GONAD MATURITY OF PERUVIAN ANCHOVETA AND VINCIGUERRIA DURING SPRING 2003

Perea de la Matta, Ángel; Cecilia Roque García y Betsy Buitrón Díaz

ABSTRACT

Distribution of spawning schools and the reproductive state of the anchovy, *Engraulis ringens*, is determined by means of histological analyses of ovaries made during the RV Olaya and Humboldt cruise 0310-12, performed between October the 24th and December the 10th. Results are shown by latitude. Anchovy was not spawning in far offshore areas, meanwhile showed scarce spawning inside 20 nautical miles. Vinciguerria was found resting and maturing in 13°S, whereas between 12°S and 4°S it was found mature and spawning.

REPRODUCTIVE ASPECTS OF PERUVIAN ANCHOVETA AND VINCIGUERRIA DURING SUMMER 2004

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ABSTRACT

This work presents results from the research survey 0402-03 performed between 5° and 17°S, during the evaluation of pelagic resources. 59 positive trawls for anchoveta, *Engraulis ringens* were made. Total length were between 11,5 and 17,5 cm TL. Spawning fraction (SF) was less than 20,0% in all the evaluated areas, except for 7°S, where SF was 23,2%, with higher values inside 20 nm from coast. The highest value of Atresia Index (AI) was at 5°S (9,2%). Spawning schools of anchoveta showed a distribution alongside the

coast, with higher spawning activity between Punta La Negra and Pimentel. In general, main spawning activity of anchoveta was observed the northern zone.

PERUVIAN ANCHOVY REPRODUCTIVE CONDITION DURING SUMMER 2005

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ABSTRACT

This work shows the evolution of the oocyte development of the anchovy *Engraulis ringens*, during the Pelagic Resources cruise RV Olaya and SNP2 0502- 04, during the period between February 20th and April 4th 2005. Results showed that anchovy of the north-south stock had a low reproductive activity. The southern stock had the lowest reproductive activity. Exceptionally, samples from 5°S had a spawning fraction higher than other areas (41,8%), and than the critical value (18,4%) of spawning peak.

REPRODUCTIVE CONDITION OF PERUVIAN ANCHOVETA DURING SPRING 2005

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ABSTRACT

During the RV Olaya 0511-12 cruise, the Peruvian anchovy LT range was from 7.0 to 18.0 cm. Most spawning activity was recorded in the strip near the coast, and varied highly at latitudinal degrees with some important spawning areas (6 to 10°S and 12°S). The spawning shoals showed a distribution along the entire coastline and the spawning activity increased in front of Salaverry and Cerro Azul. In general, greater spawning activity was observed in certain areas of its distribution, compared with other years; this could be due to the higher percentage of large adult females in the population.