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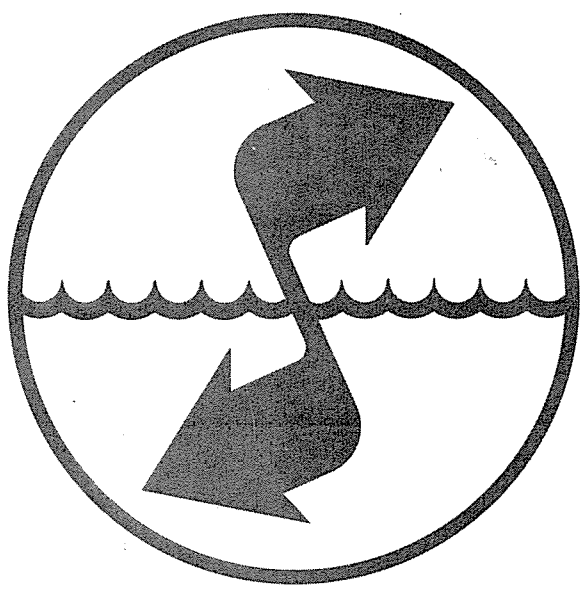
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U.S. PROGRAM IN BIOLOGY  
INTERNATIONAL INDIAN OCEAN EXPEDITION

FINAL CRUISE REPORT  
ANTON BRUUN CRUISE 5  
OCEANOGRAPHIC DATA  
BATHYTHERMOGRAPH POSITIONS  
STATION LISTS for BIOLOGICAL COLLECTIONS

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Final Report: R/V ANTON BRUUN, Cruise 5

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U. S. PROGRAM IN BIOLOGY  
INTERNATIONAL INDIAN OCEAN EXPEDITION

Final Report: R/V ANTON BRUUN, Cruise 5

Cruise 5 of the R/V ANTON BRUUN originated from Bombay on January 26 and terminated at Bombay on May 4, 1963. In addition to the basic hydrographic and biological programs continued from previous cruises, a special program of longline fishing was conducted in cooperation with the U. S. Bureau of Commercial Fisheries. This was the second of two cruises designed to study the distribution and abundance of pelagic fishes in the western Indian Ocean.

Cruise 2, on which the first of the two special longlining programs was carried out, extended from May to July 1963, during the period of the southwest monsoon. Cruise 5, on the other hand, took place during the period of the northeast monsoon.

In this report are presented the Cruise 5 station lists, bathythermograph positions, and reduced oceanographic, chemical, and biological data. A summary of the longline catch by stations is included, but more details (morphometric data, stomach contents, etc.) on individual specimens are on file at the Biological Laboratory; Bureau of Commercial Fisheries; U. S. Fish and Wildlife Service; Honolulu, Hawaii.

A narrative report of Cruise 5, including brief descriptions of the special researches of participating scientists, was issued as News Bulletin No. 7 of the U. S. Program in Biology, IIOE, dated October, 1964.

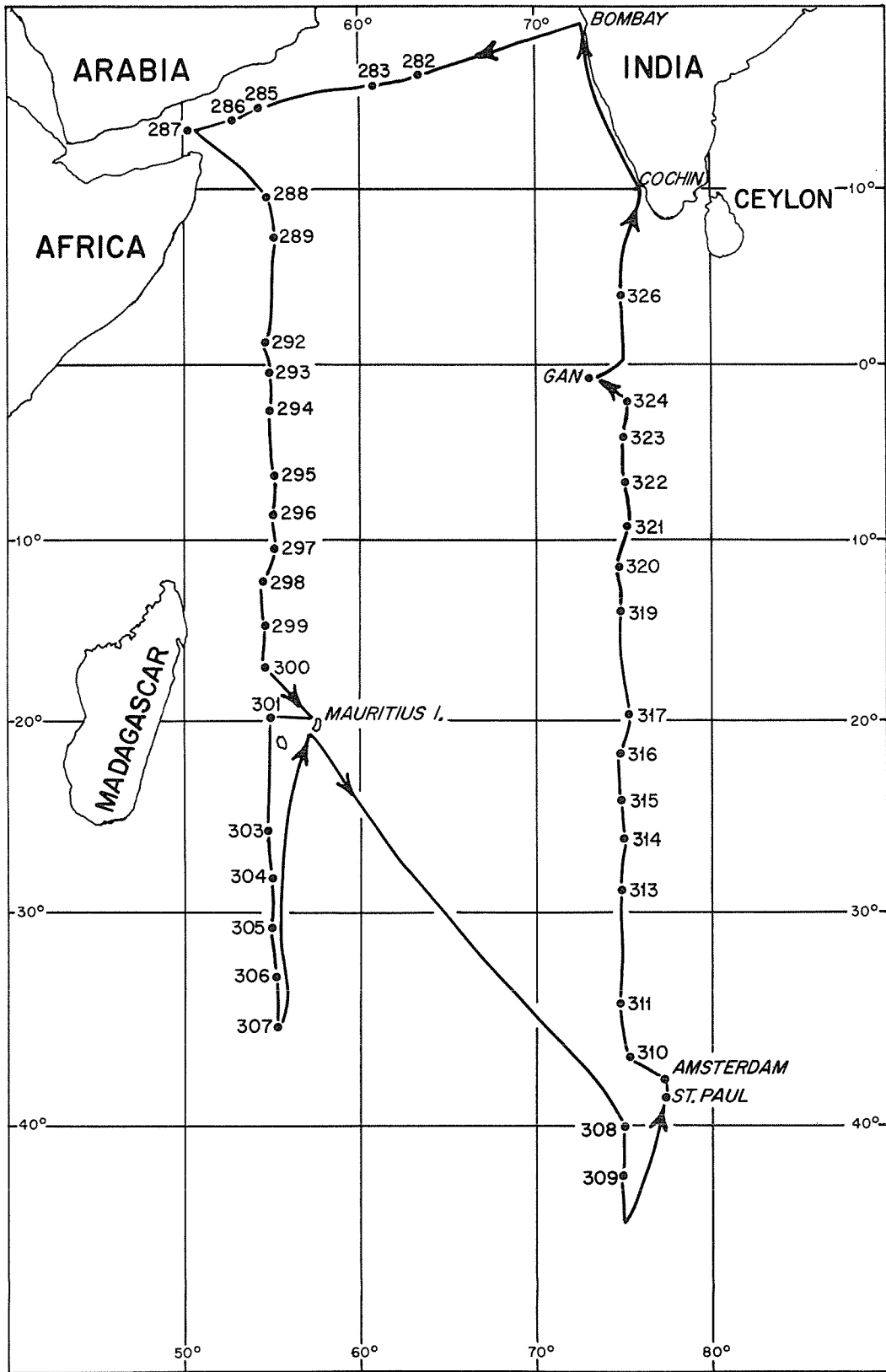


Figure 1 - Cruise track and station positions

Table 1.

## Itinerary, Cruise 5

- |             |  |
|-------------|--|
| January 26  | - Departed Bombay, India.  |
| January 27  | - February 3 - Completed series of stations from 17°44'N., 69°11'E. to 13°11'N., 50°22'E.                                  |
| February 5  | - Commenced with the first of a series of stations along longitude 55°E. and extending from 09°28'N. to 35°42'S.           |
| February 12 | - Arrived Port Victoria, Seychelles Islands.   |
| February 15 | - Departed Port Victoria.  |
| February 22 | - Arrived Port Louis, Mauritius Island.  |
| March 2     | - Departed Port Louis.   |
| March 9     | - Ended series of stations along longitude 55°E. Engine trouble necessitated return to Port Louis.                         |
| March 14    | - Arrived Port Louis.  |
| March 28    | - Departed Port Louis.   |
| April 4     | - Commenced with the first of a series of stations along longitude 75°E. and extending from latitudes 42°23'S. to 08°21'N. |
| April 7     | - Stopover at St. Paul Island; collected sea birds and inshore fishes.   |
| April 8     | - Stopover at Amsterdam Island; collected sea birds, inshore fishes and invertebrates.                                     |
| April 24    | - Arrived Gan Island, Addu Atoll (Maldivé Islands group).  |
| April 27    | - Departed Gan Island.   |
| April 30    | - Completed last station along longitude 75°E.   |
| May 1       | - Arrived Cochin, India.   |
| May 1       | - Departed Cochin, India   |
| May 4       | - Arrived Bombay, India; End of Cruise 5.  |

Table 2

## KEY TO ABBREVIATIONS

## A. PLANKTON NETS

IOSN:	Indian Ocean Standard Net 113 cm diameter, 0.33 mm mesh aperture
75M25:	75 cm diameter, 0.064 mm mesh aperture (No. 25 mesh)
75M3:	75 cm diameter, 0.333 mm mesh aperture (No. 3 mesh)
BE-3:	Be Multiple Plankton Sampler 70.7 cm by 70.7 cm (square opening 0.333 mm mesh aperture (No. 3 mesh)
M-0:	1 meter diameter, 0.6 mm mesh aperture (No. 0 mesh)

## B. OTHER SAMPLING GEAR AND ACCESSORIES

TROL:	Trolling
LL:	Longline
RR:	Rod and reel
HND:	Handline
POIS:	Poison (rotenone derivatives)

## C. INSTITUTIONS AND INDIVIDUALS

SOSC:	Smithsonian Oceanographic Sorting Center U. S. National Museum Washington, D. C.
IOBC:	Indian Ocean Biological Center Ernakulam, Kerala India
POFI:	Biological Laboratory Bureau of Commercial Fisheries U. S. Fish and Wildlife Service Honolulu, Hawaii
MBA:	Dr. Mary Belle Allen Kaiser Research Foundation Institute Laboratory of Comparative Biology Richmond, California

Table 3

## Summary of major activities, Cruise 5

Station	Date	Position		Long Line	Hydro Cast	Prim. Prod.	Plankton Tows			
		Latitude	Longitude				75M25	IOSN	BE-3	M-0
281X	27 Jan 64	17°44'N	69°11'E							x
281Y	28 Jan 64	16°44'N	65°08'E							x
282	29 Jan 64	16°13'N	63°29'E	x	x	x	x	x	x	
282A	29 Jan 64	16°03'N	62°16'E							x
283	30 Jan 64	15°42'N	60°52'E	x	x	x	x	x	x	
283A	30 Jan 64	15°35'N	60°04'E							x
284	31 Jan 64	15°22'N	58°12'E		x	x	x	x	x	
284A	31 Jan 64	15°04'N	56°51'E							x
285	1 Feb 64	14°22'N	54°18'E	x	x	x	x	x	x	
285A	1 Feb 64	14°02'N	54°08'E							x
286	2 Feb 64	13°50'N	52°59'E	x	x	x	x	x	x	
286A	2 Feb 64	13°40'N	51°54'E							x
287	3 Feb 64	13°11'N	50°22'E	x	x	x	x	x	x	
287A	3 Feb 64	12°40'N	51°13'E							x
287B	4 Feb 64	10°21'N	54°17'E							x
288	5 Feb 64	09°28'N	54°52'E	x	x	x	x	x	x	
288A	5 Feb 64	08°29'N	54°56'E							x
289	6 Feb 64	07°10'N	55°05'E	x	x	x	x	x	x	
289A	6 Feb 64	06°28'N	55°04'E							x
290	7 Feb 64	05°02'N	55°01'E		x	x	x	x		
290A	7 Feb 64	03°54'N	55°01'E							x
291	8 Feb 64	02°31'N	55°04'E		x	x	x	x	x	
291A	8 Feb 64	01°58'N	54°57'E							x
292	9 Feb 64	01°03'N	54°46'E	x	x	x		x	x	
292A	9 Feb 64	00°37'N	54°54'E							x
293	10 Feb 64	00°31'S	54°56'E	x	x	x	x	x		
293A	10 Feb 64	01°15'S	54°52'E							x
294	11 Feb 64	02°51'S	54°58'E	x	x	x	x	x	x	
294A	11 Feb 64	03°37'S	55°22'E							x
294B	15 Feb 64	05°09'S	55°26'E							x
295	16 Feb 64	06°28'S	55°12'E	x	x	x	x	x	x	
295A	16 Feb 64	07°34'S	55°10'E							x
296	17 Feb 64	08°42'S	55°07'E	x	x	x	x	x	x	
296A	17 Feb 64	09°32'S	55°12'E							x
297	18 Feb 64	10°47'S	55°15'E	x	x	x	x	x	x	
297A	18 Feb 64	11°18'S	54°59'E							x
298	19 Feb 64	12°33'S	54°33'E	x	x	x	x	x	x	
298A	19 Feb 64	13°37'S	54°43'E							x
299	20 Feb 64	14°57'S	54°43'E	x	x	x	x	x		
299A	20 Feb 64	16°04'S	54°50'E							x
300	21 Feb 64	17°14'S	54°38'E	x	x	x	x	x	x	
300A	2 Mar 64	20°02'S	56°13'E							x
301	3 Mar 64	19°57'S	54°58'E	x	x	x	x	x	x	
301A	3 Mar 64	21°08'S	54°55'E							x

Table 3 (cont.)

Station	Date	Position		Long Line	Hydro Cast	Prim. Prod.	Plankton Tows			
		Latitude	Longitude				75M25	IOSN	BE-3	M-0
302	4 Mar 64	23° 07' S	54° 50' E		x	x	x	x	x	
302A	4 Mar 64	24° 39' S	54° 57' E							x
303	5 Mar 64	26° 00' S	54° 52' E	x	x	x		x	x	
303A	5 Mar 64	26° 56' S	55° 01' E							x
304	6 Mar 64	28° 22' S	55° 02' E	x	x	x	x	x	x	
304A	6 Mar 64	29° 31' S	55° 09' E							x
305	7 Mar 64	30° 50' S	55° 02' E	x	x	x	x	x	x	
305A	7 Mar 64	31° 56' S	54° 59' E							x
306	8 Mar 64	33° 13' S	55° 10' E	x	x	x	x	x	x	
306A	8 Mar 64	34° 25' S	55° 06' E							x
307	9 Mar 64	35° 42' S	55° 15' E	x	x	x	x	x	x	
307A	29 Mar 64	23° 21' S	58° 52' E							x
307B	30 Mar 64	26° 34' S	61° 31' E							x
307C	31 Mar 64	29° 46' S	64° 22' E							x
307D	1 Apr 64	32° 56' S	67° 23' E							x
307E	2 Apr 64	35° 45' S	70° 36' E							x
307F	3 Apr 64	38° 51' S	74° 02' E							x
308	4 Apr 64	40° 04' S	75° 00' E	x	x	x	x	x	x	
308A	4 Apr 64	41° 01' S	75° 00' E							x
309	5 Apr 64	42° 23' S	74° 54' E	x	x	x		x	x	
309A	5 Apr 64	43° 01' S	75° 03' E							x
309B	6 Apr 64	41° 42' S	76° 34' E							x
309C	7 Apr 64	St. Paul Island								(Sea bird & bottomfish collecting station)
309D	7 Apr 64	38° 18' S	77° 38' E							x
309E	8 Apr 64	Amsterdam Island								(Fish poison station)
310	9 Apr 64	37° 01' S	75° 19' E	x	x	x	x	x	x	
310A	9 Apr 64	35° 50' S	75° 07' E							x
311	10 Apr 64	34° 31' S	74° 47' E	x	x	x	x	x	x	
311A	10 Apr 64	33° 22' S	74° 56' E							x
312	11 Apr 64	31° 26' S	74° 57' E		x	x	x	x	x	
312A	11 Apr 64	30° 09' S	74° 58' E							x
313	12 Apr 64	29° 00' S	74° 51' E	x	x	x	x		x	
313A	12 Apr 64	27° 50' S	75° 03' E							x
314	13 Apr 64	26° 27' S	75° 02' E	x	x	x	x	x	x	
314A	13 Apr 64	25° 37' S	75° 02' E							x
315	14 Apr 64	24° 20' S	74° 52' E	x	x	x		x	x	
315A	14 Apr 64	23° 26' S	75° 01' E							x
316	15 Apr 64	21° 58' S	74° 55' E	x	x	x		x	x	
316A	15 Apr 64	21° 13' S	75° 17' E							x
317	16 Apr 64	19° 44' S	75° 20' E	x	x	x	x	x	x	
317A	16 Apr 64	18° 46' S	75° 13' E							x
318	17 Apr 64	16° 43' S	74° 53' E		x	x	x	x	x	
318A	17 Apr 64	15° 39' S	74° 52' E							x
319	18 Apr 64	14° 10' S	74° 55' E	x	x	x	x	x	x	
319A	18 Apr 64	13° 14' S	74° 57' E							x















