Complete Station List of the R/V *Anton Bruun* as part of the U.S. Program in Biology, International Indian Ocean Expedition and Description of Sampling Equipment
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The International Indian Ocean Expedition (IIOE) was a multinational oceanographic expedition planned by the Scientific Committee on Oceanic Research (SCOR) starting in 1957 and later (1961) co-sponsored by the Intergovernmental Oceanographic Commission (IOC) of UNESCO. The IIOE started in late 1959 and ended in 1965.

The United States was one of the major contributors to the IIOE, and one of the largest of the U.S. activities was the U.S. Program in Biology. This program included cruises of two vessels, the R.V. *Anton Bruun* and R/V *Te Vega*, activities at two land-based camps, and a variety of independent investigations. These activities were funded primarily by the U.S. National Science Foundation and the outcomes of the U.S. Program in Biology will be described in a later publication.

The R/V *Anton Bruun* had previously served as the yacht *Williamsburg* of the U.S. President. The *Williamsburg* was donated by President John F. Kennedy in 1962 and refurbished to serve as a research vessel devoted to biological oceanography. The *Bruun* was staffed by a scientific crew of 7 young men, who served throughout the *Brunn*'s time in the Indian Ocean (see video at http://scilib.ucsd.edu/sio/archives/collections/moving/caljsioa_mov0050278.mp4). The *Bruun* conducted 11 cruises in the Indian Ocean (Table 1).

Table 1. Cruises of the R/V *Anton Bruun* as part of the U.S. Program in Biology (see https://scor-int.org/project/iioe-1/).

Dates	Cruise Identifier	Chief Scientist	Location
24 Feb.-4 Mar. 1963	Cruise A Stations 1-13	David W. Menzel	Aden-Bombay (see Figure 2)
12 Mar.-10 May 1963	Cruise 1 Stations 13A-105	Eugene C. LaFond	Bay of Bengal, Bombay-Bombay (see Figure 3)
22 May-23 July 1963	Cruise 2 Stations 106-144	Richard S. Shomura	Central Indian Ocean, Bombay-Bombay (see Figure 4)
8 Aug.-20 Sept. 1963	Cruise 3 Stations 145-160	Alfred Ebeling	Central Indian Ocean, Bombay-Mauritius (Figure 5)
25 Sept.-8 Nov. 1963	Cruise 4A Stations 161-200	John H. Ryther	Arabian Sea and western Indian Ocean, Mauritius-Bombay (see Figure 6)
12 Nov.-10 Dec. 1963	Cruise 4B Stations 201-281B	Alonzo T. Pruter	Arabian Sea coastal areas, Bombay-Karachi (see Figure 7)

26 Jan.-4 May 1964	Cruise 5 Stations 281X-327	Richard S. Shomura	Western and Central Indian Ocean, Bombay-Bombay (see Figure 8)
15 May-16 July 1964	Cruise 6 Stations 328-355	Giles W. Mead	Central Indian Ocean, Bombay-Durban (Figure 9)
29 July-10 Sept. 1964	Cruise 7 Stations 356-392	Orville L. Bandy	Southwest Indian Ocean, Durban-Durban (Figure 10)
25 Sept.-9 Nov. 1964	Cruise 8 Stations 393-421	Stewart Springer	Western Indian Ocean, Durban-Mombasa (see Figure 11)
18 Nov.-28 Dec. 1964	Cruise 9 Stations 422-478	Edward Chin	Western Indian Ocean, Mombasa-Hurghad (Figure 12)

The purpose of this document is to provide the first complete list of the stations occupied by the *Bruun* during the IIOE, about 1,400 stations in all (Figure 1). This information was compiled from (1) the cruise reports from each cruise (Appendix 1; see cruise tracks and sampling stations in Figures 2-19), (2) records of samples taken from using the Indian Ocean Standard Net (IOSN; Appendix 2) and (3) the list of specimens submitted to the Smithsonian Institution from cruises of the *Bruun* (Appendix 3).

The compiled list of data from these three sources is available at http://udspace.udel.edu/handle/19716/24050 in Microsoft Excel and pdf formats. The following information is provided in these files:

- Cruise Number. There were 11 cruises of the R/V *Anton Bruun* as part of the IIOE-2 (see Table 1 earlier). The series of cruises started with a shake-down cruise (Cruise A) and Cruise 4 was split into A and B segments, with different chief scientists.
- Station Number: The same stations are not always shown in the cruise reports, the IOSN records, and the Smithsonian records, but the Excel file combines data from all three sources. This provides a cross-reference among the different data sources. Main stations were given a number and substations noted with A, B., etc.
- Longitude and latitude: The values given in the cruise reports were converted to decimal degrees from a standard degrees/minutes format. In cases for which the cruise reports differed from the data in the Smithsonian and/or IOSN records, the cruise report coordinates were used.
- Local date that the station was occupied. When a date range was given in the IOSN and/or Smithsonian records, but not the cruise reports, the date at the beginning of the station occupation is used in the compiled list.
- The biogeographic province of the station, based on the provinces proposed by Costello et al. (2017). These provinces were formed according to statistical methods based on cluster analysis techniques on data contained in the Ocean Biogeographic Information System (OBIS).

- Sampling methods/equipment at the station. A description of sampling equipment can be found in Appendix 4. This information is primarily from the cruise reports, although the IOSN sampling is corroborated by the IOSN samples and some sampling equipment information is given in the Smithsonian records.
- Reference(s) for the station information. Most of the information is from the cruise reports, although this information is augmented for some stations for which samples were submitted to the Smithsonian Institution and to the Indian Ocean Biological Centre (for IOSN samples).

This document will be updated in the future if corrections or additions need to be made. Any changes needed should be transmitted to Ed Urban at edward.r.urban[at]gmail.com.

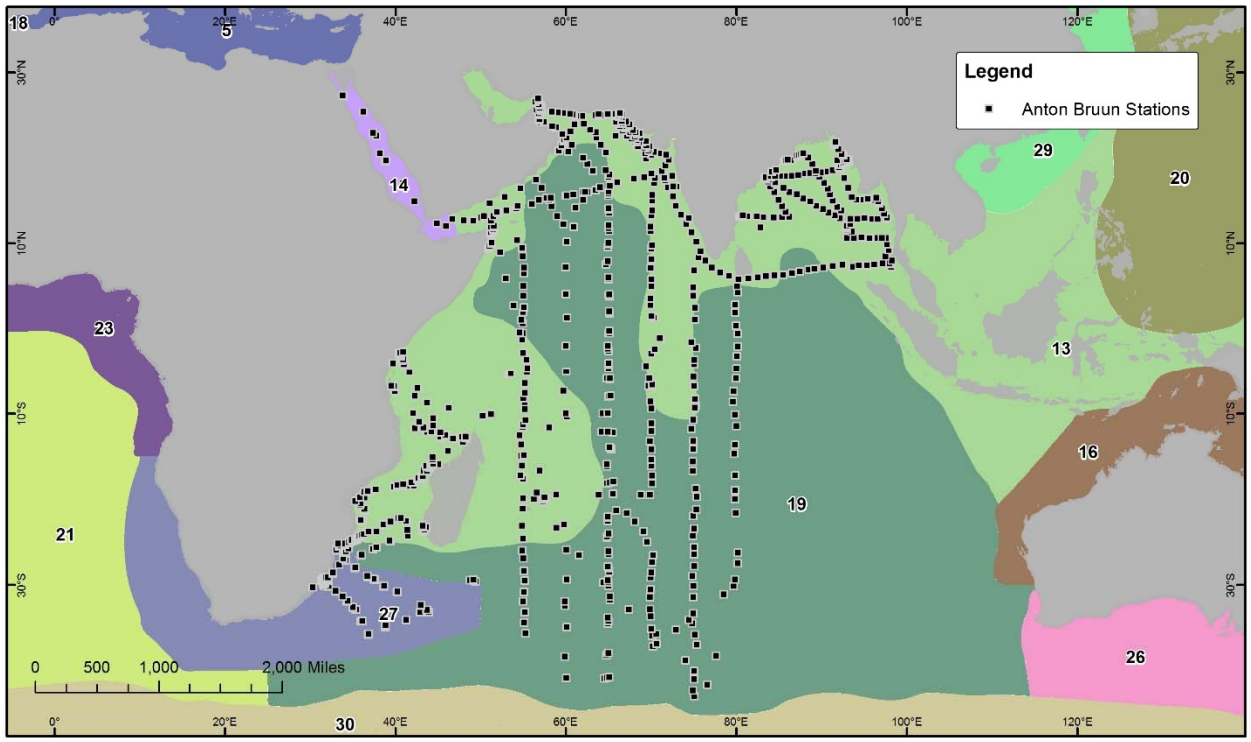

Figure 1. Stations occupied by the R/V *Anton Brunn* as part of the U.S. Program in Biology of the International Indian Ocean Expedition. The stations are overlaid by a map of the numbered biogeographical provinces described in Costello et al. (2017). Figure created by Zeenatul Basher.

Acknowledgements

Zeenatul Basher assigned Costello et al. (2017) provinces to each station and plotted the data in Figure 1.

References

Costello. M.J., P. Tsai, P.S. Wong, A.K.L. Cheung, Z. Basher, and C. Chaudhary. 2017. Marine biogeographic realms and species endemicity. *Nature Communications* 8:1057, DOI: 10.1038/s41467-017-01121-2

Appendix 1
Stations Occupied by the R/V *Anton Bruun* as part of the IIOE

The cruise reports from the R/V *Anton Bruun* are found in the references below. The cruise reports provide the basic data from the 11 cruises of the *Bruun* that were part of the U.S. Program in Biology that contributed to the International Indian Ocean Expedition. The cruise reports provide a summary text report about the cruise, a list of participants, a map of the cruise track (see below), some description of sampling equipment, and a list of stations, with sampling locations, sampling equipment, and the basic hydrographic and nutrient data.

Cruise Reports

U.S. Program in Biology, International Indian Ocean Expedition, Report 1, Cruise A, http://www.scor-int.org/IIOE-1/AB-Cruise A.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 1, Volume 1 of 2, http://www.scor-int.org/IIOE-1/AB-Cruise%201-1.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 1, Volume 2 of 2 http://www.scor-int.org/IIOE-1/AB-Cruise%201-2.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 2, http://www.scor-int.org/IIOE-1/AB-Cruise%202.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 3, http://www.scor-int.org/IIOE-1/AB-Cruise%203.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 4A and 4B, http://www.scor-int.org/IIOE-1/AB-Cruise%204.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 5 , http://scor-int.org/Historical%20Documents/AB-Cruise-5.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 6, http://scor-int.org/Historical%20Documents/AB-Cruise%206.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 1 of 2, http://scor-int.org/Historical%20Documents/AB-Cruise%207-9a.pdf

U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 2 (of 2), http://scor-int.org/Historical%20Documents/AB-Cruise%207-9b.pdf

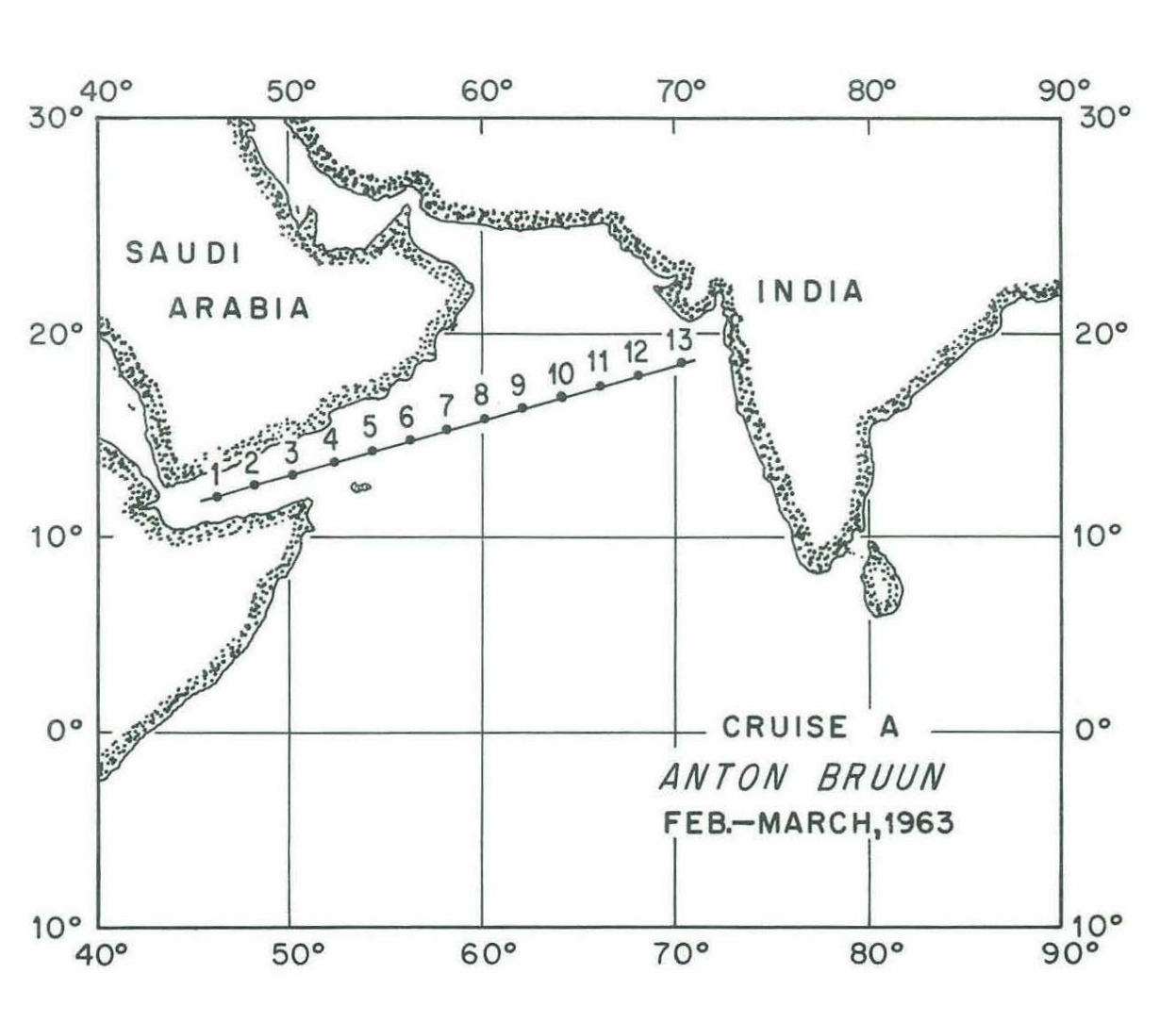

Figure 2—Cruise track for Cruise A of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Report 1, Cruise A)

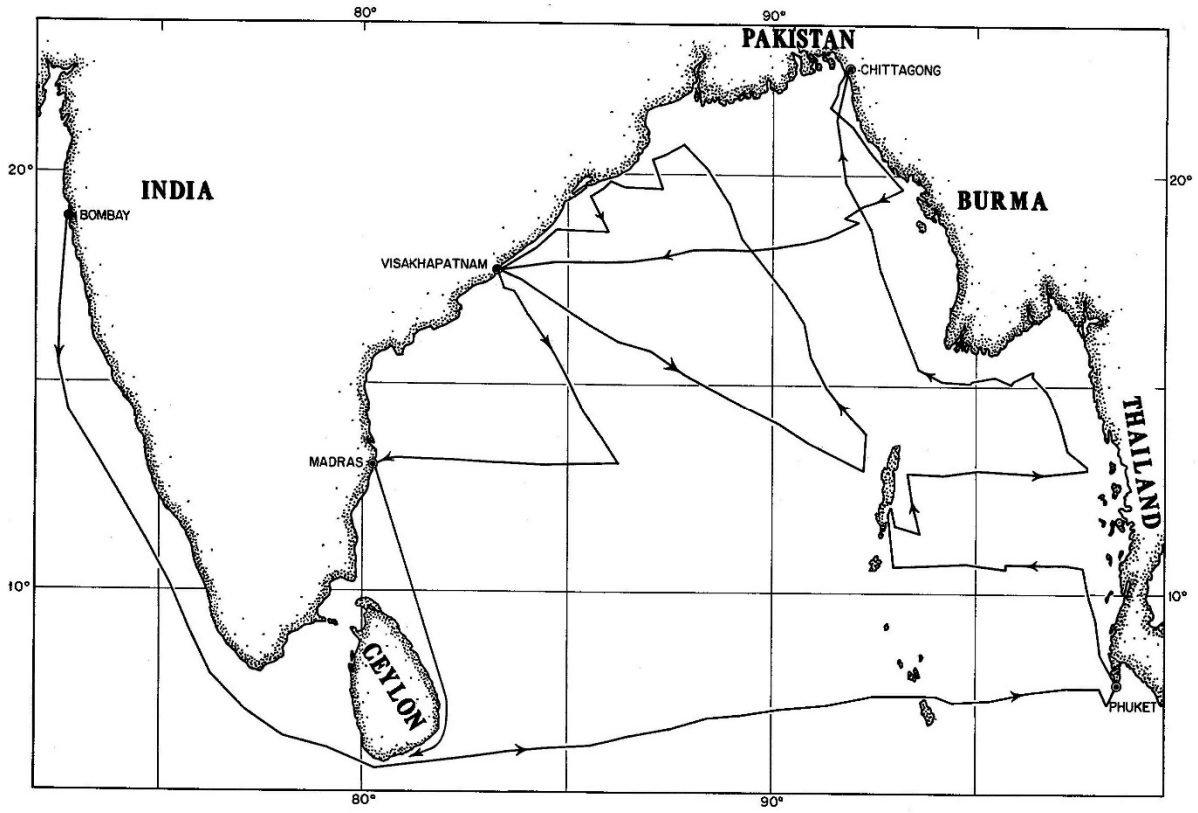

Figure 3—Cruise track for Cruise 1 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 1, Volume 1 of 2)

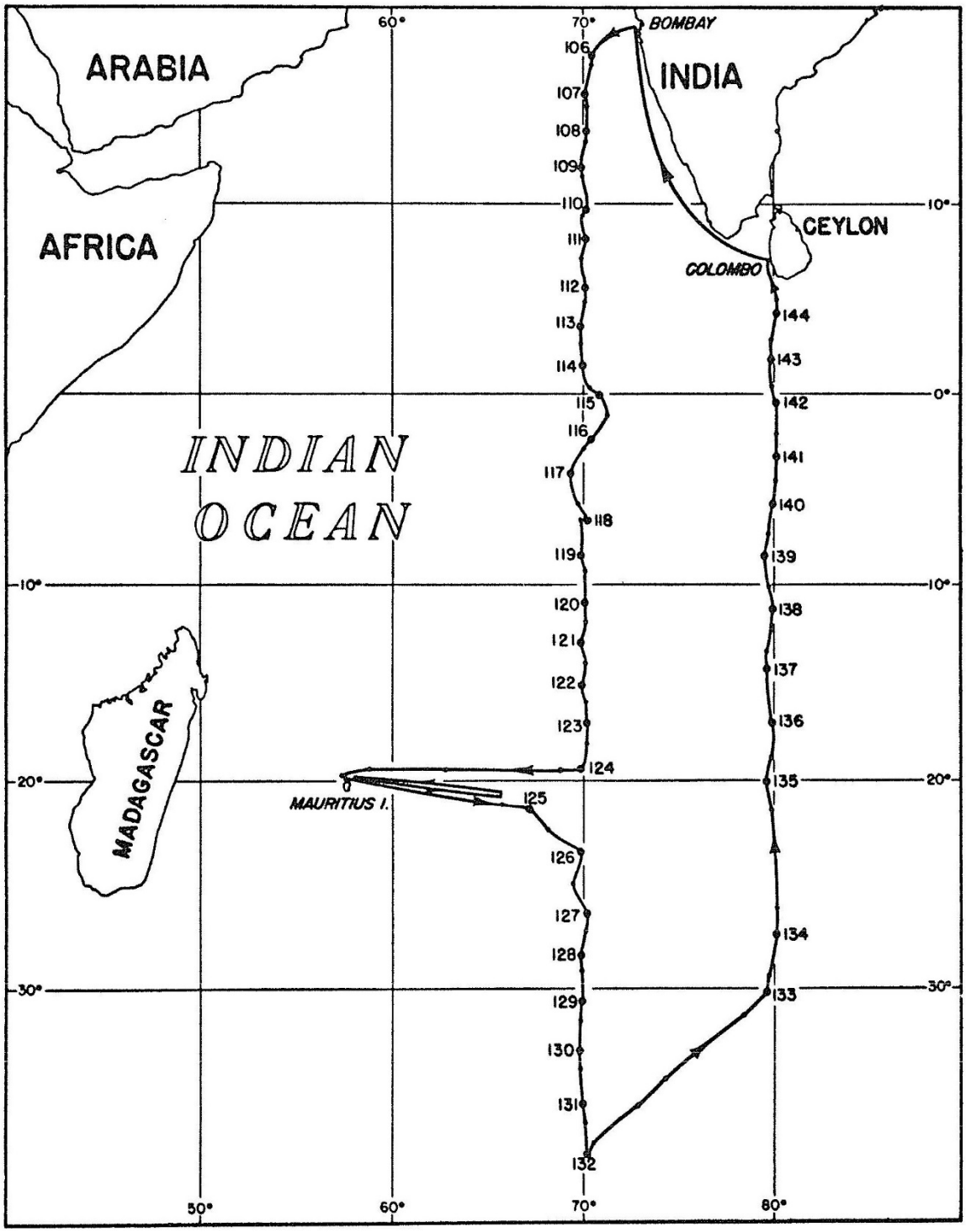

Figure 4—Cruise track for Cruise 2 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 2)

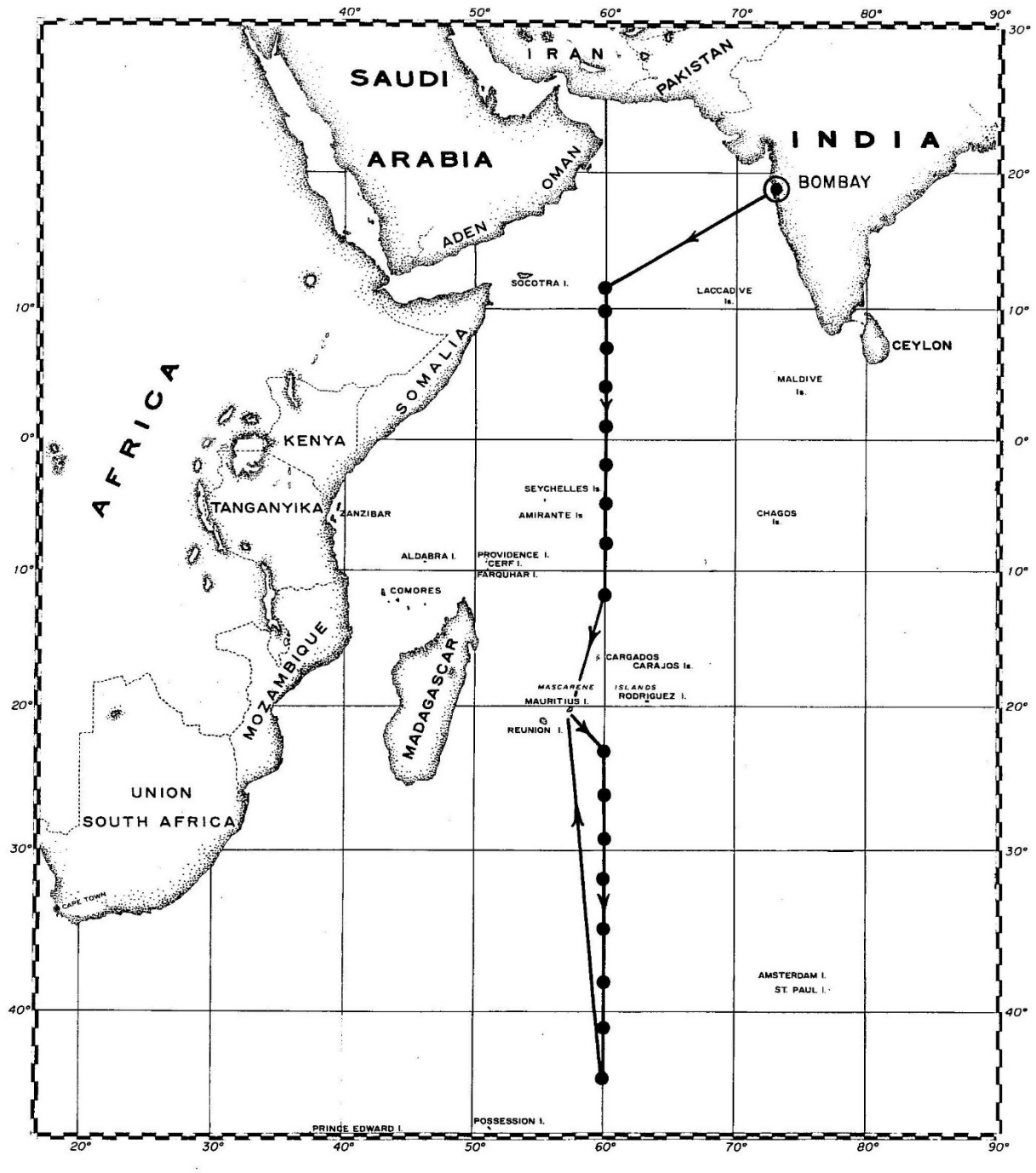

Figure 5—Cruise track for Cruise 3 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 3)

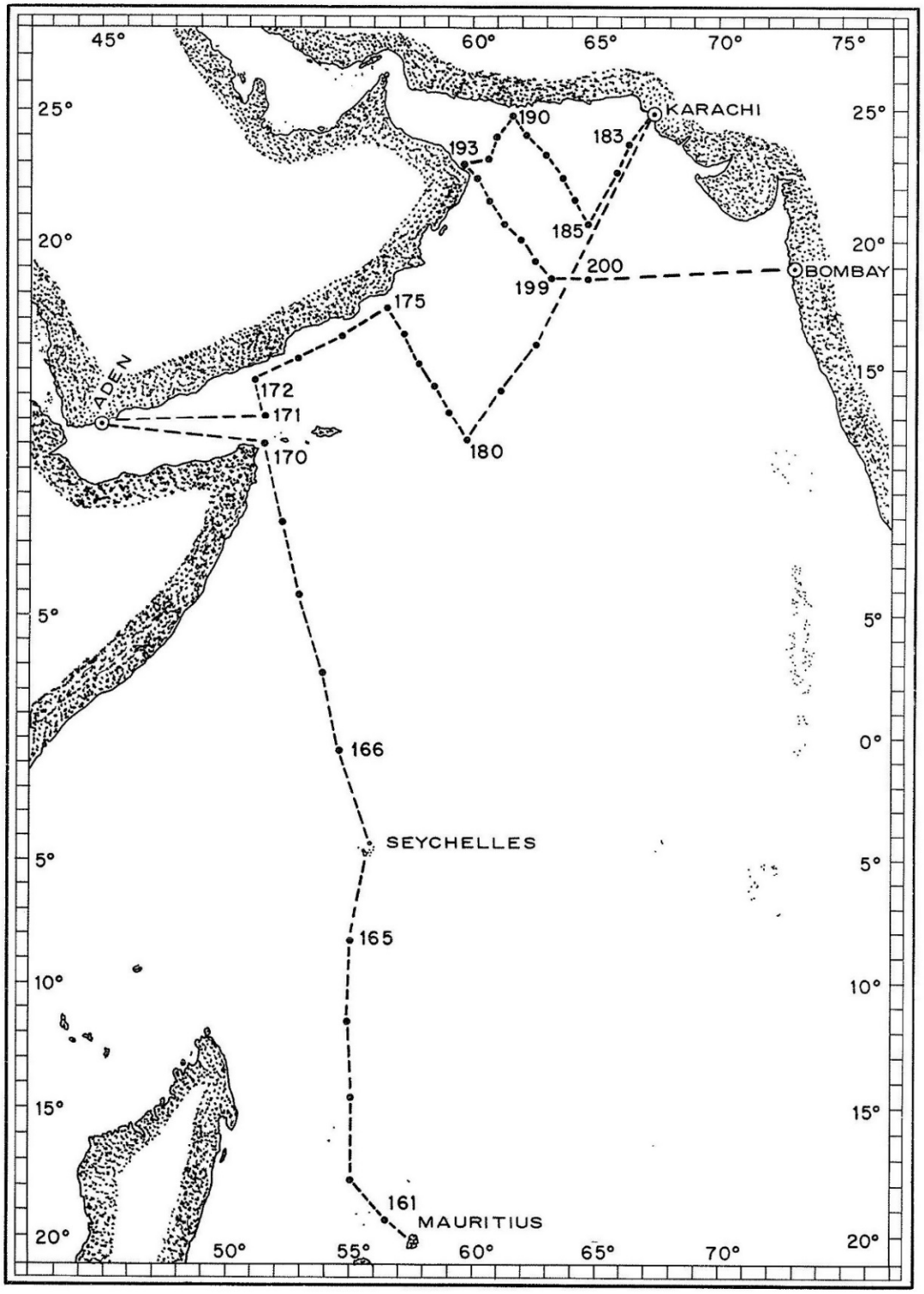

Figure 6—Cruise track for Cruise 4A of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 4A and 4B)

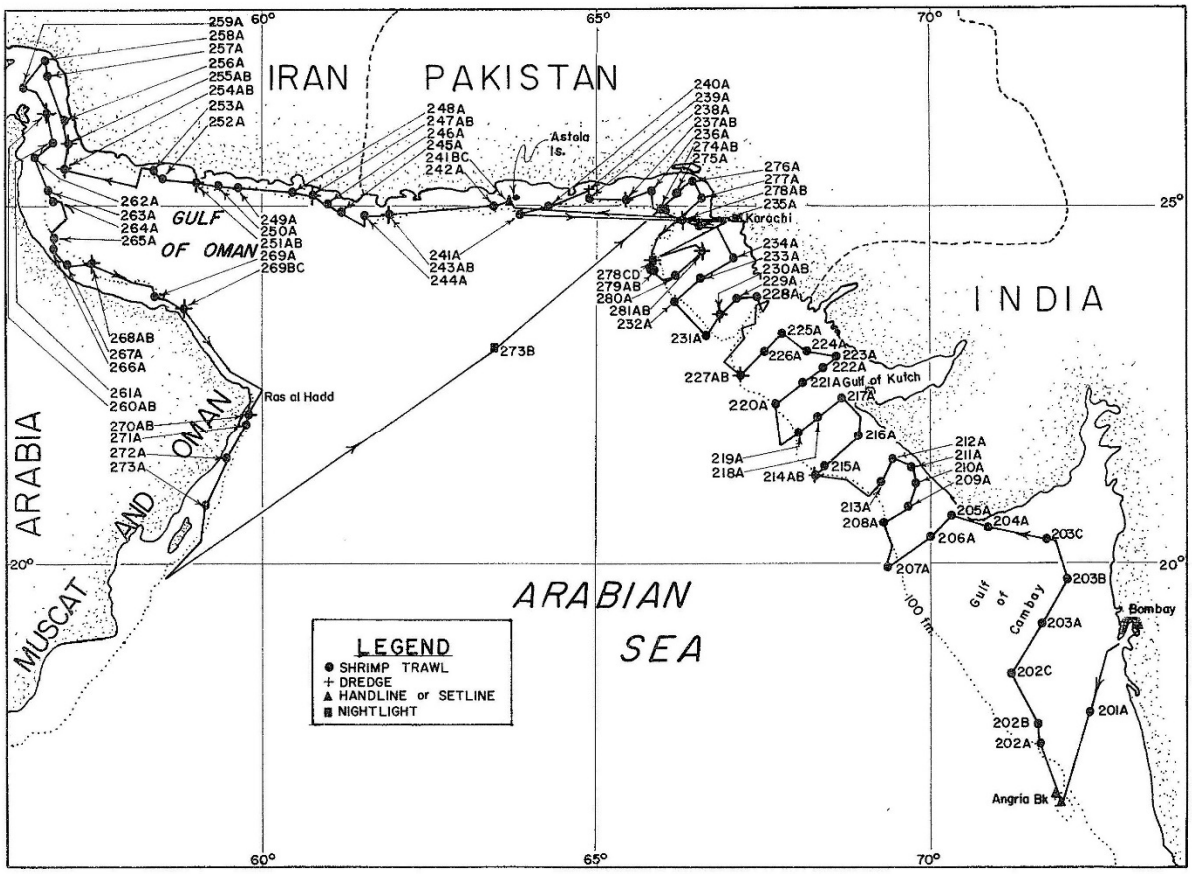

Figure 7—Cruise track for Cruise 4B of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 4A and 4B)

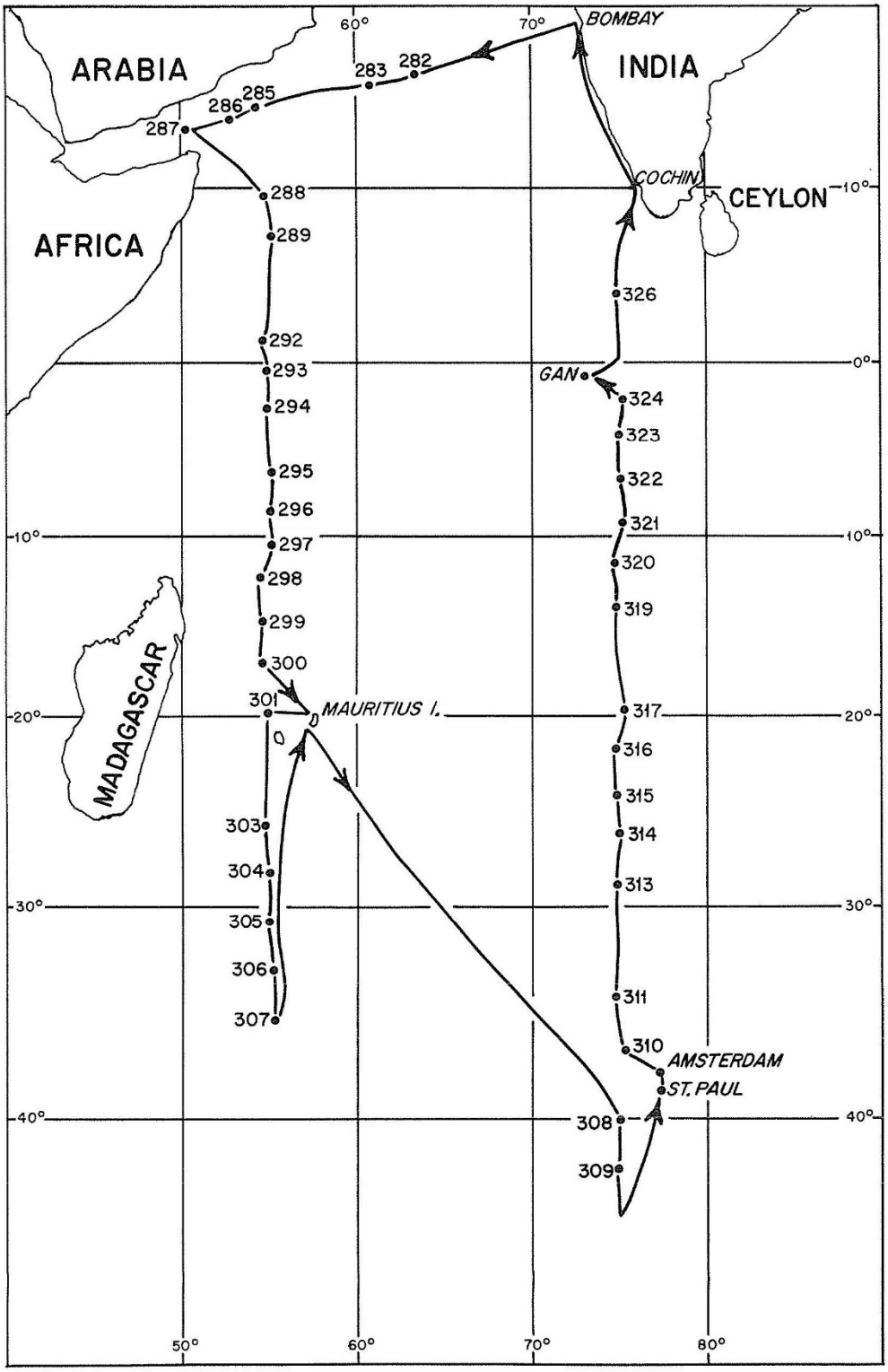

Figure 8—Cruise track for Cruise 5 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 5)

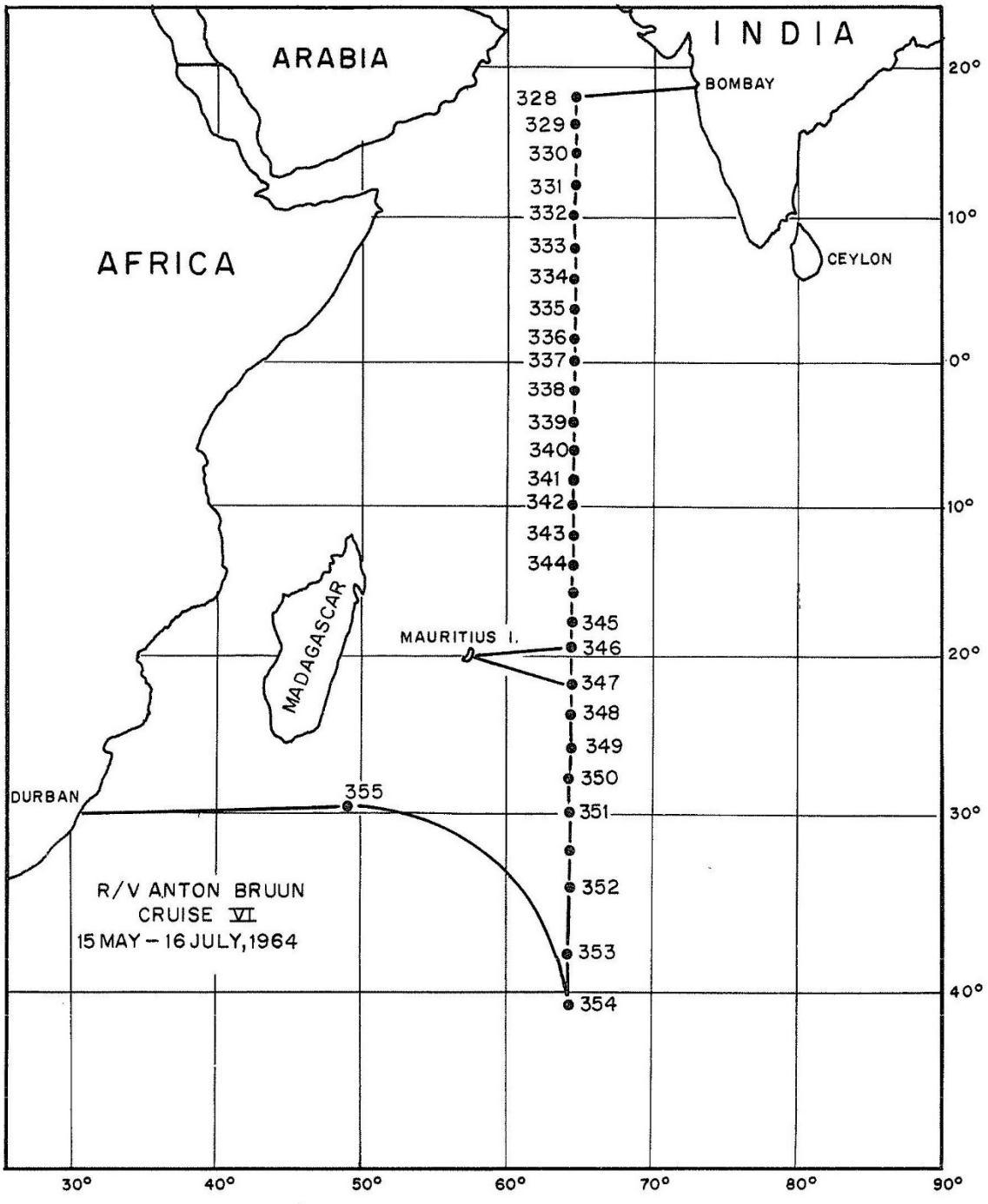

Figure 9—Cruise track for Cruise 6 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruise 6)

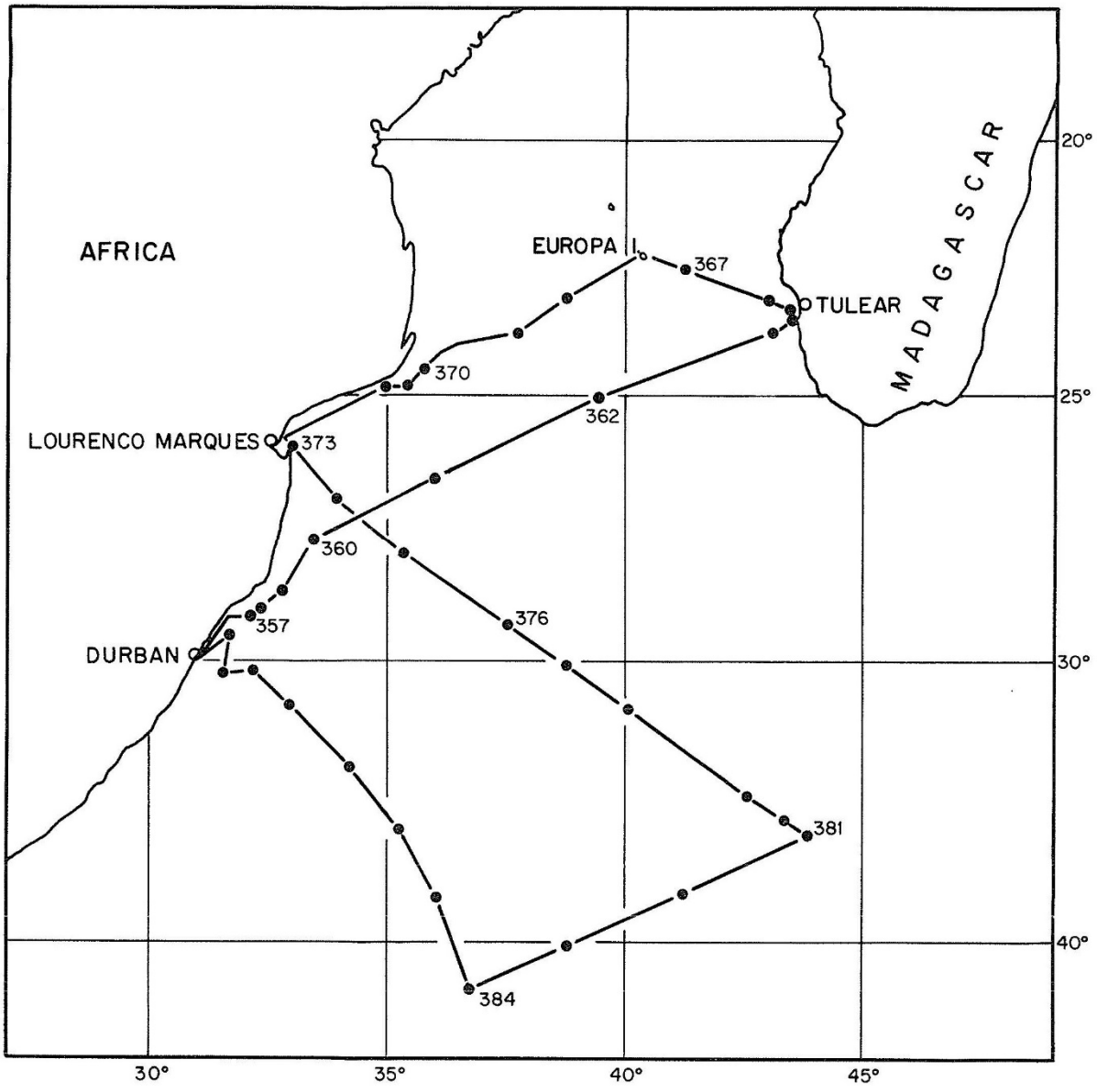

Figure 10—Cruise track for Cruise 7 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 1 of 2)

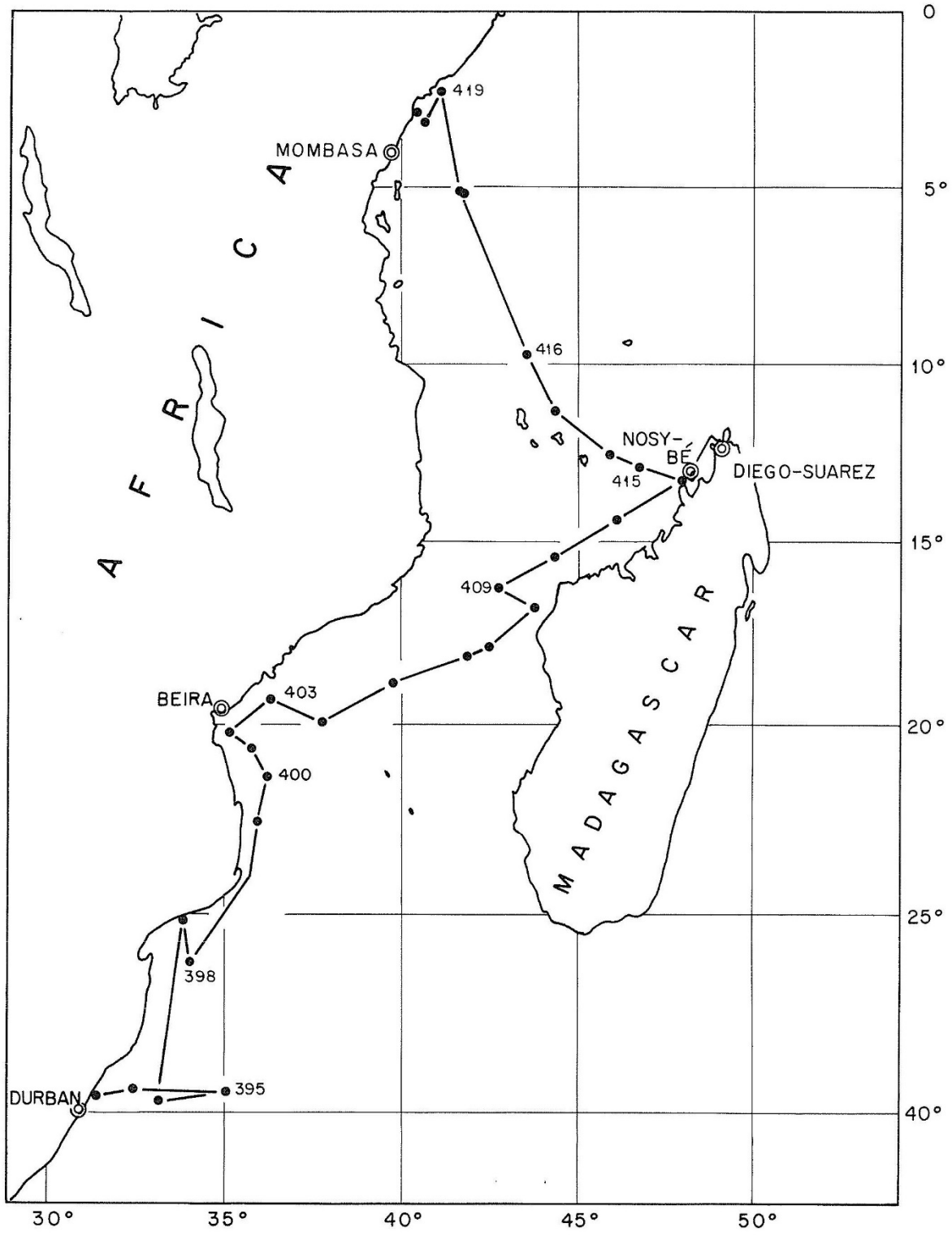

Figure 11—Cruise track for Cruise 8 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 1 of 2)

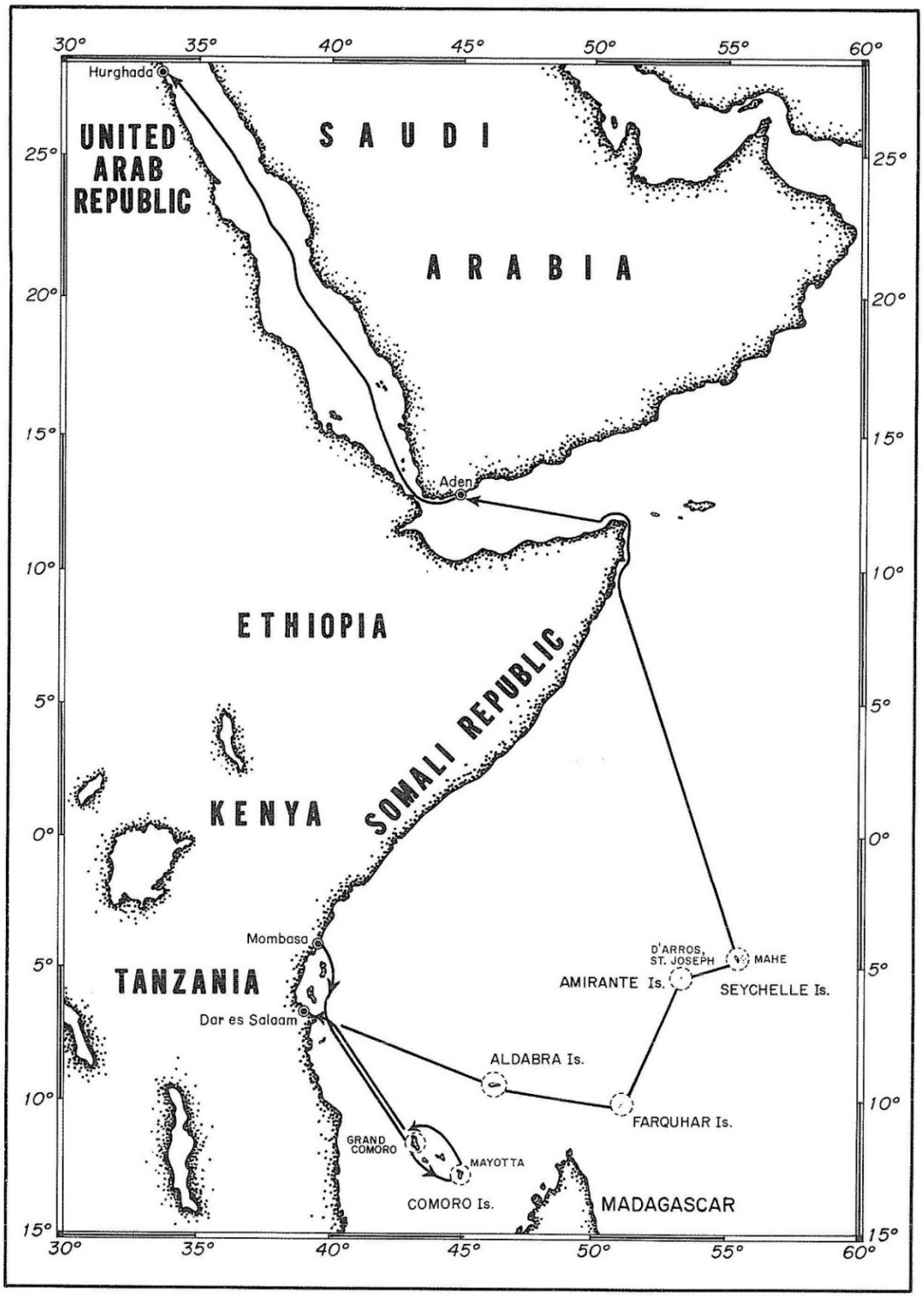

Figure 12—Cruise track for Cruise 9 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 1 of 2)

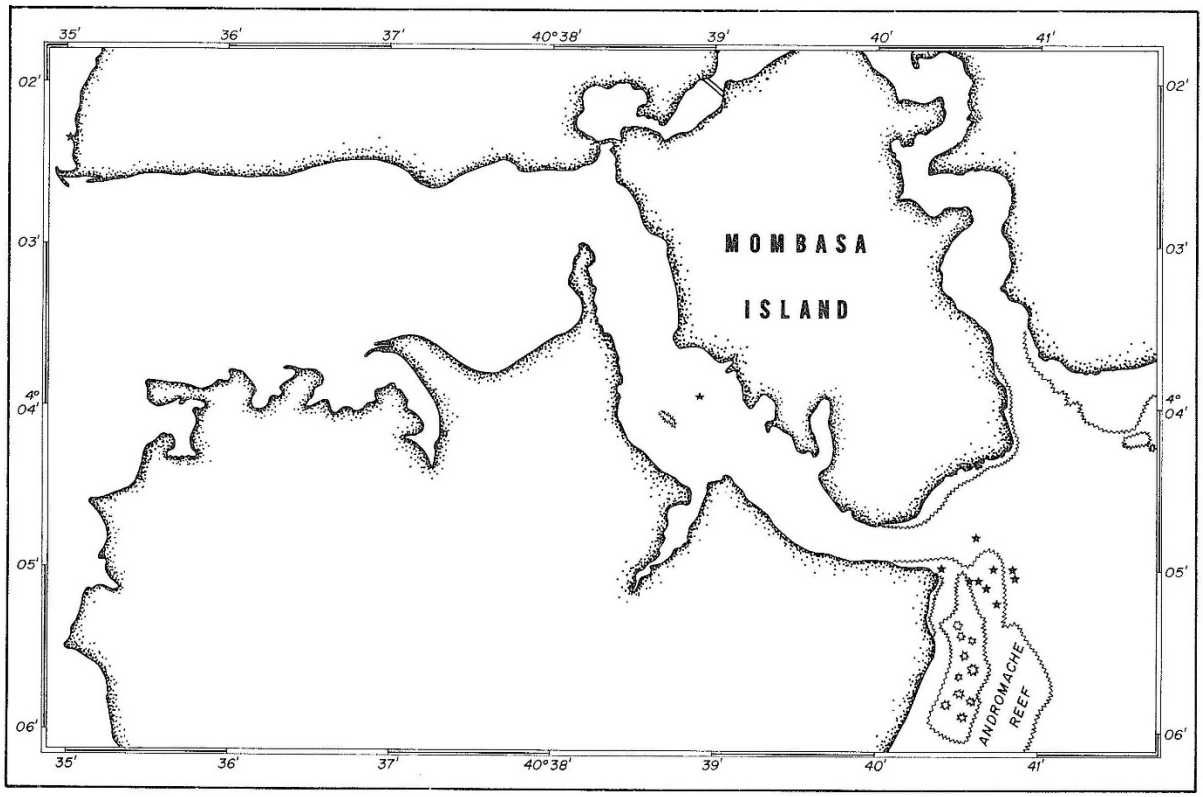

Figure 13— Collecting sites near Mombasa - Cruise 9 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 2 of 2)

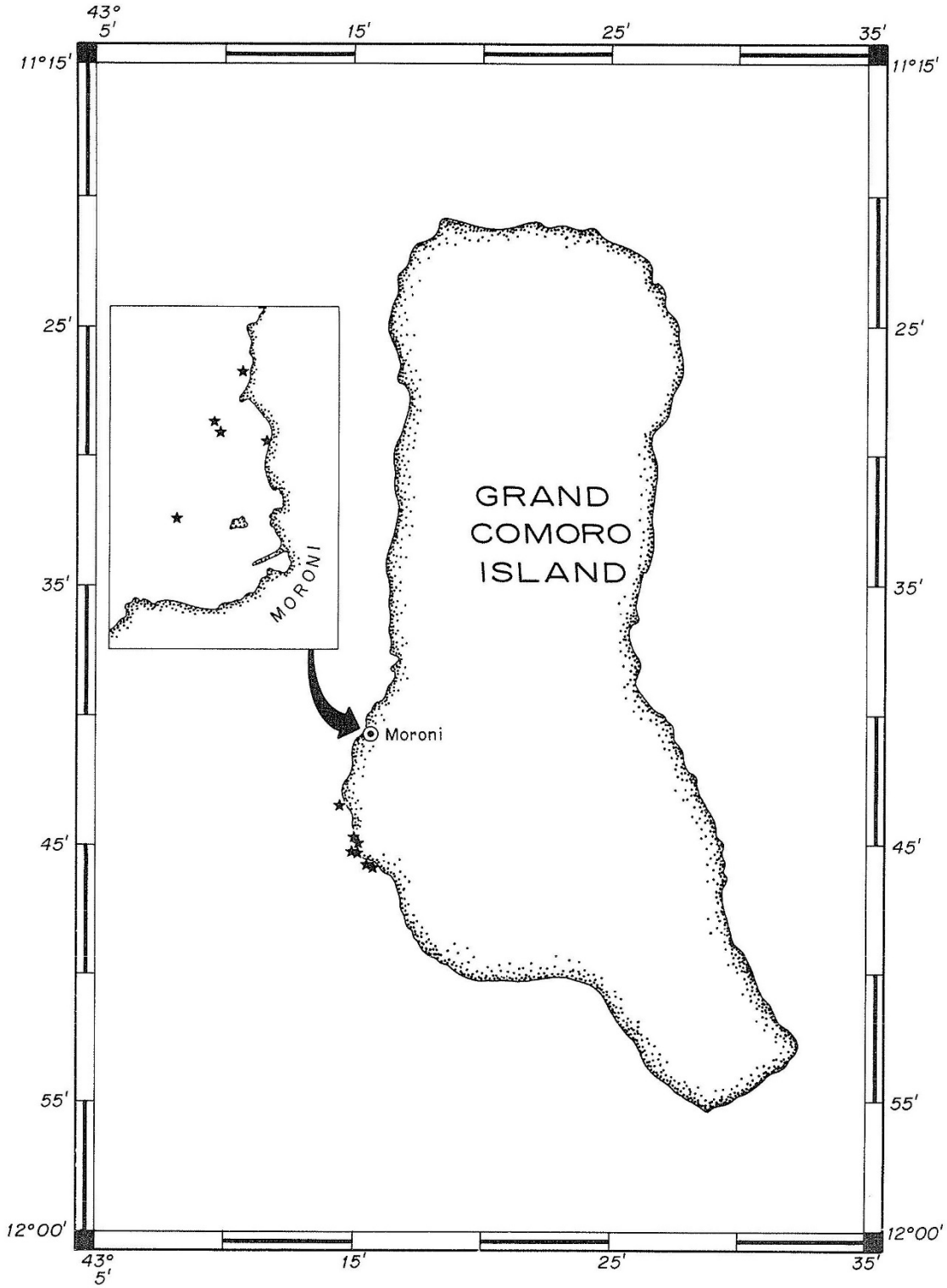

Figure 14— Collecting sites at Grand Comoro - Cruise 9 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 2 of 2)

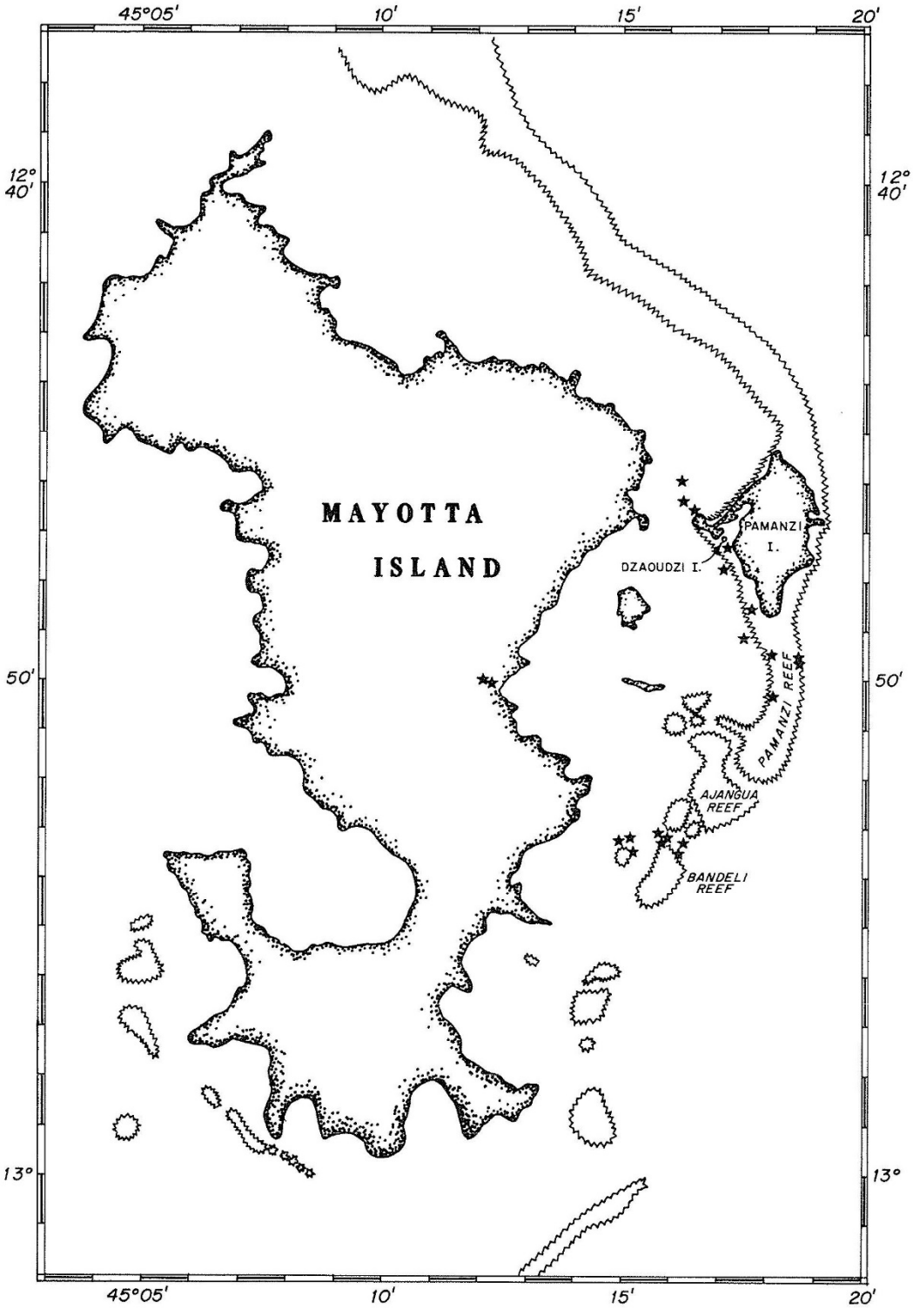

Figure 15— Collecting sites at Mayotta Island - Cruise 9 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 2 of 2)

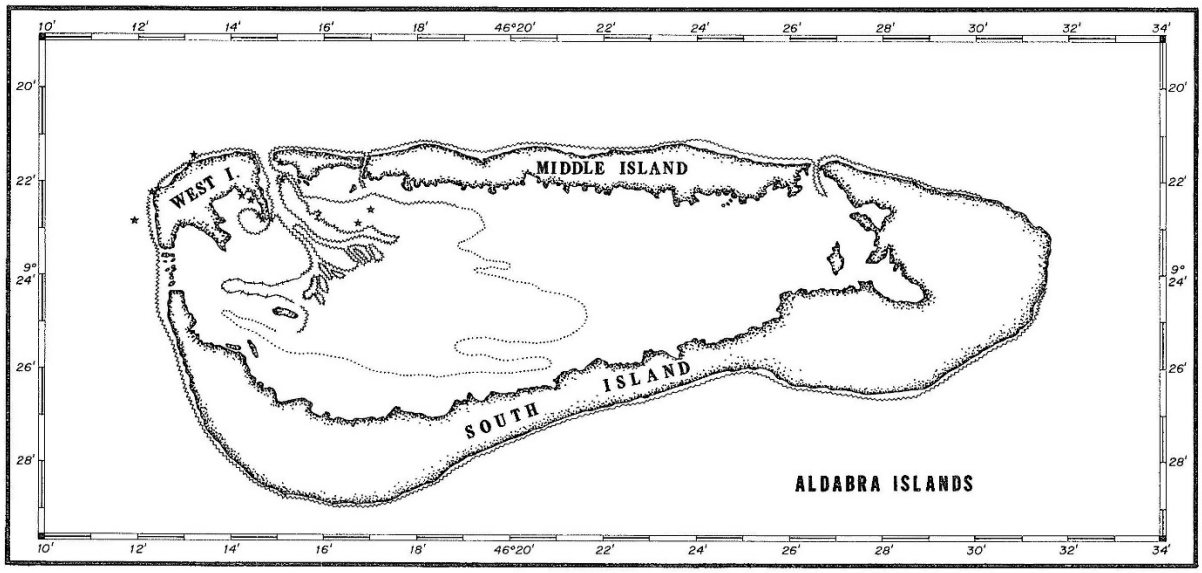

Figure 16— Collecting sites at Aldabra Islands - Cruise 9 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 2 of 2)

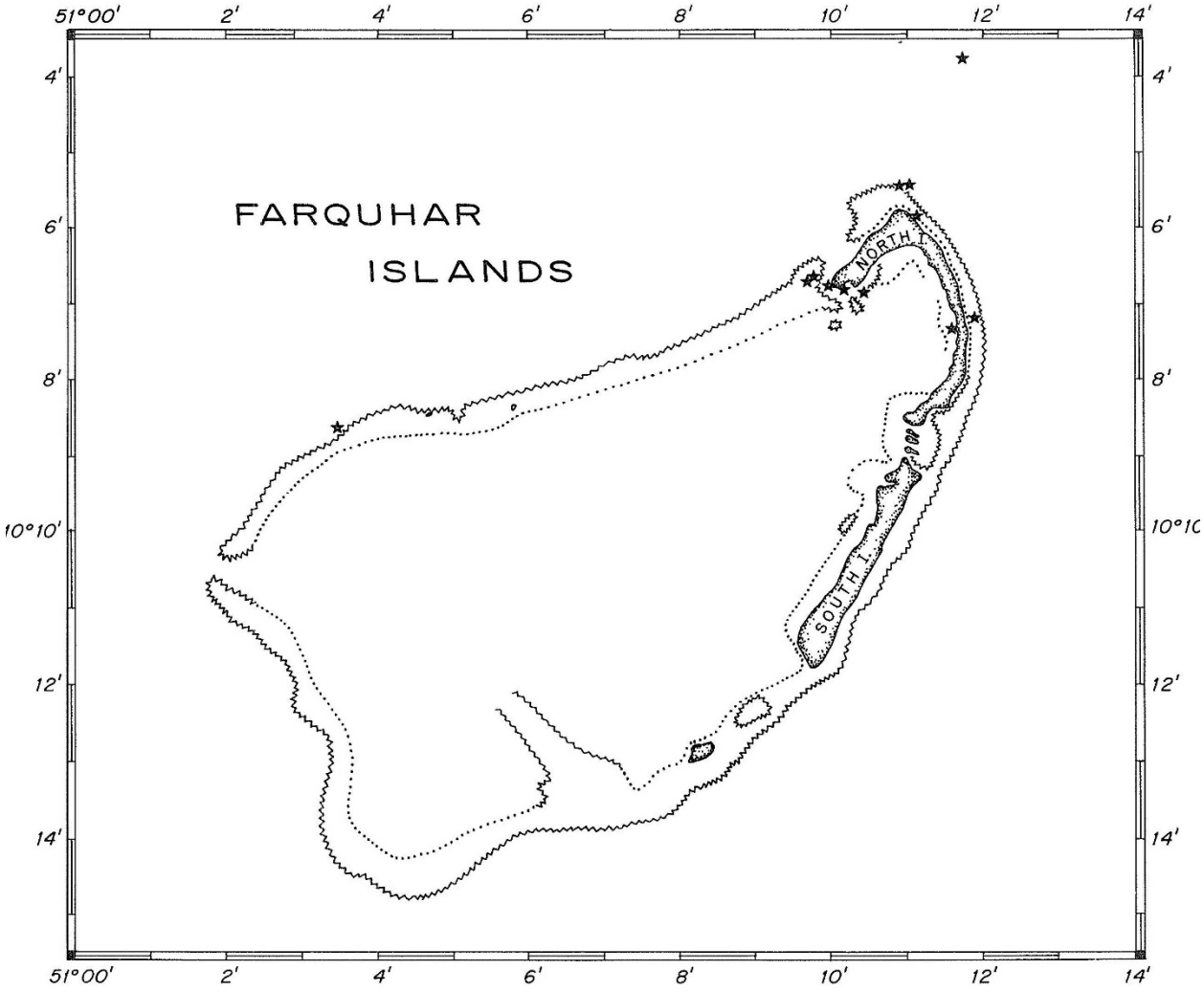

Figure 17— Collecting sites at Farquhar Islands - Cruise 9 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 2 of 2)

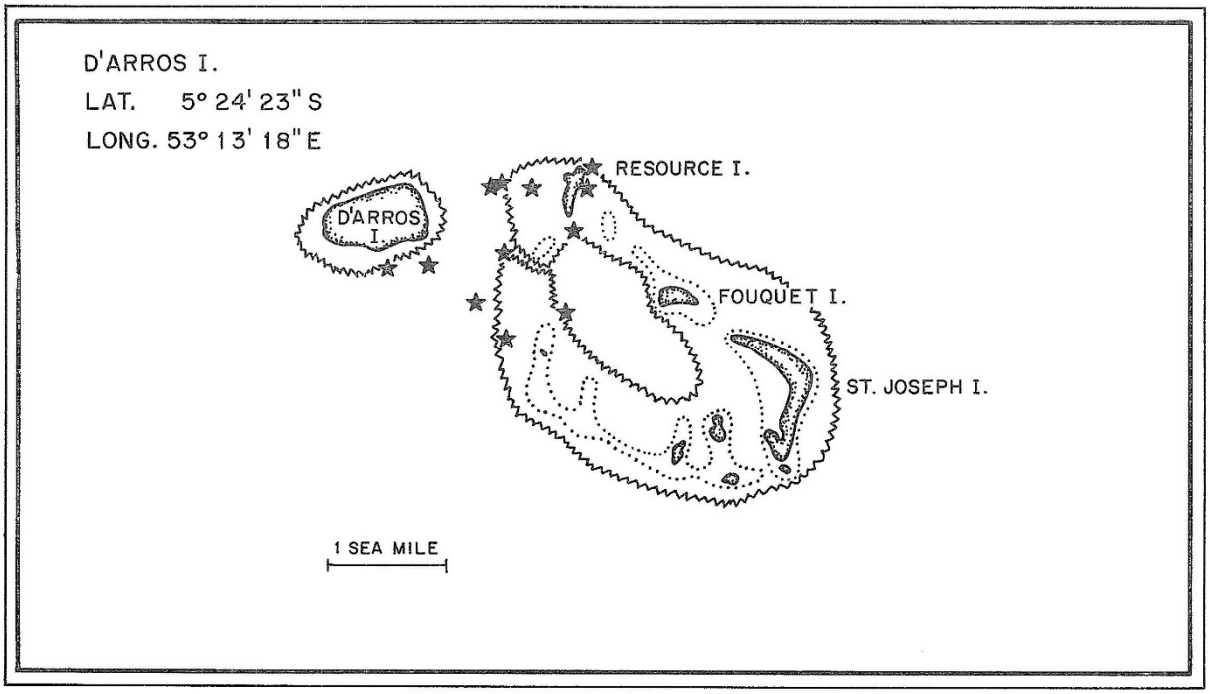

Figure 18—Collecting sites at D'Arros and St. Joseph's Islands - Cruise 9 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 2 of 2)

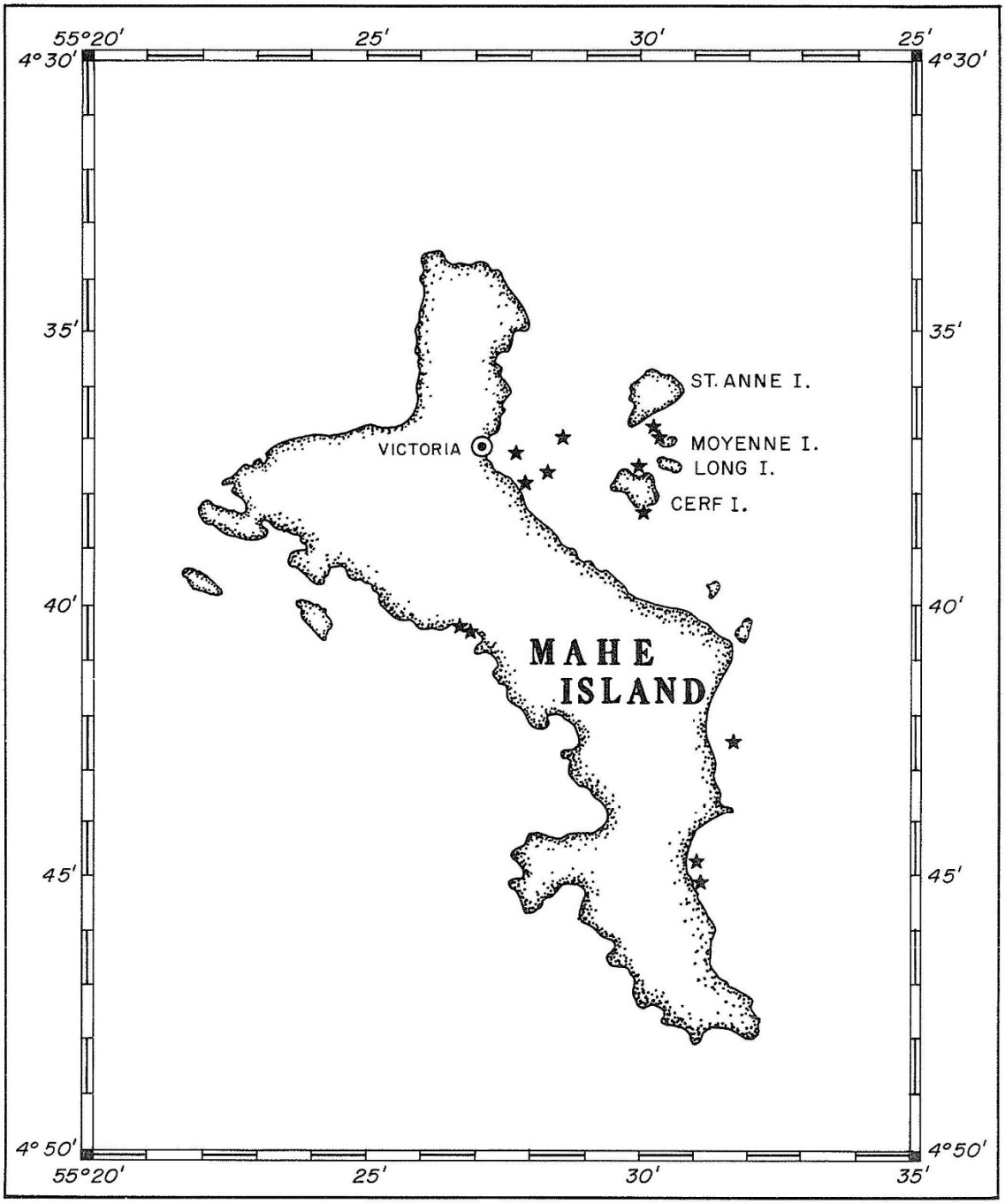

Figure 19— Collecting sites at Seychelles Islands - Cruise 9 of the R/V *Anton Bruun* for the IIOE (see U.S. Program in Biology, International Indian Ocean Expedition, Final Cruise Report, *Anton Bruun* Cruises 7,8,9, Volume 2 of 2)

Appendix 2

IOSN Sample Locations from *Anton Bruun* Cruises

The following table is from the U.S. Biological and Chemical Oceanography Data Management Office (BCO-BMO), from data provided by Indian Ocean Biological Centre. The data were obtained from the database at
http://www.cmarz.org/jg/serv/CMarZ/iioe_zoo.html1%7Bdir=www.cmarz.org/jg/dir/CMarZ/,info=www.cmarz.org/jg/info/CMarZ/iioe_zoo%7D?vessel%20eq%20Anton_Bruun
Accessed 15-16 October 2018

Cruise	Station	Latitude	Longitude	Local date
A	1	12.00	45.85	24 February 1963
A	2	12.68	48	25 February 1963
A	3	13.05	50	25 February 1963
A	4	13.57	52.02	26 February 1963
A	5	14.05	54	27 February 1963
A	6	14.58	56	27 February 1963
A	7	15.08	58	28 February 1963
A	8	15.58	60	01 March 1963
A	9A	15.08	62	01 March 1963
A	10A	16.60	64	02 March 1963
A	11	17.13	66	03 March 1963
A	12A	17.60	68	03 March 1963
A	13	18.15	70	04 March 1963
1	14	7.45	94.35	19 March 1963
1	15	7.45	95.3	20 March 1963
1	16	7.52	96.18	20 March 1963
1	17	7.67	97.15	21 March 1963
1	18	7.68	97.98	21 March 1963
1	19	8.48	97.98	23 March 1963
1	20	9.20	97.85	23 March 1963
1	22	10.62	97.57	24 March 1963
1	23	10.65	96.58	24 March 1963
1	24	10.60	95.65	25 March 1963
1	25	10.68	94.67	26 March 1963
1	26	10.65	93.82	26 March 1963
1	27	10.62	92.98	26 March 1963
1	28	11.82	92.88	27 March 1963
1	29	11.38	93.52	27 March 1963

1	30	12.28	93.35	28 March 1963
1	31	12.88	93.38	28 March 1963
1	32	12.87	94.22	28 March 1963
1	33	12.95	95.02	29 March 1963
1	34	12.83	95.93	29 March 1963
1	35	12.85	96.57	29 March 1963
1	36	12.87	97.67	30 March 1963
1	37	13.47	97.32	30 March 1963
1	38	14.12	97.08	30 March 1963
1	39	14.70	96.78	31 March 1963
1	41	15.07	95.85	31 March 1963
1	43	15.13	94.07	01 April 1963
1	49	19.53	92.87	05 April 1963
1	50	19.38	92.55	06 April 1963
1	51	19.18	92.3	06 April 1963
1	52	18.92	91.98	06 April 1963
1	53	18.55	91.27	07 April 1963
1	54	18.40	90.75	07 April 1963
1	55	18.33	90.1	08 April 1963
1	56	18.25	89.33	08 April 1963
1	57	18.22	88.7	08 April 1963
1	58	18.18	88.07	09 April 1963
1	59	18.00	87.27	09 April 1963
1	60	17.90	86.52	09 April 1963
1	61	17.88	85.93	09 April 1963
1	62	17.87	85.2	10 April 1963
1	63	17.93	84.62	10 April 1963
1	65	17.50	83.78	14 April 1963
1	66B	17.12	84.55	15 April 1963
1	67	16.50	85.53	15 April 1963
1	68	15.98	86.3	16 April 1963
1	69	15.78	87.08	16 April 1963
1	70	15.28	87.83	16 April 1963
1	71	14.88	88.67	17 April 1963
1	72	14.30	89.38	17 April 1963
1	73	14.03	90.13	17 April 1963
1	74	13.60	90.8	18 April 1963
1	75	13.27	91.57	18 April 1963
1	76	12.93	92.17	18 April 1963
1	77	13.83	92.28	19 April 1963
1	78	14.25	91.83	19 April 1963

1	79	14.97	91.28	19 April 1963
1	80	15.72	90.97	20 April 1963
1	81	16.42	90.72	20 April 1963
1	82	17.10	90.28	20 April 1963
1	83	17.80	89.72	21 April 1963
1	84	18.50	89.3	21 April 1963
1	85	19.27	88.93	22 April 1963
1	86	20.07	88.4	22 April 1963
1	91	17.30	83.78	28 April 1963
1	92	16.67	83.97	29 April 1963
1	93	15.97	84.45	29 April 1963
1	95	14.37	85.33	30 April 1963
1	96	13.72	85.78	30 April 1963
1	97	13.13	86.2	01 May 1963
1	98	13.05	85.35	01 May 1963
1	99	13.03	84.37	02 May 1963
1	100	13.07	83.17	02 May 1963
1	101	13.15	82.37	02 May 1963
1	102	13.17	81.28	03 May 1963
1	103	13.28	80.73	03 May 1963
2	106	17.45	70.45	23 May 1963
2	107	15.67	70.12	24 May 1963
2	108	13.83	70.12	25 May 1963
2	109	11.98	69.92	26 May 1963
2	110	9.77	70.1	27 May 1963
2	111	8.15	70.03	28 May 1963
2	112	5.80	70.05	29 May 1963
2	113	3.55	69.9	30 May 1963
2	114	1.50	70.02	31 May 1963
2	115	-1.12	71	01 June 1963
2	116	-2.38	70.4	02 June 1963
2	117	-4.37	69.4	03 June 1963
2	118	-6.80	70.12	04 June 1963
2	120	-11.17	70.03	07 June 1963
2	121	-13.25	69.85	08 June 1963
2	122	-15.42	69.97	09 June 1963
2	123	-17.30	70.08	10 June 1963
2	124	-19.50	69.85	11 June 1963
2	125	-21.67	67.1	25 June 1963
2	126	-23.78	69.08	26 June 1963
2	127	-26.57	70.2	27 June 1963

2	128	-28.55	69.93	28 June 1963
2	129	-30.57	69.92	29 June 1963
2	130	-32.87	69.87	30 June 1963
2	131	-35.15	69.98	01 July 1963
2	132	-37.20	70.17	02 July 1963
2	133	-30.18	79.7	05 July 1963
2	134	-27.52	80.1	06 July 1963
2	135	-20.03	79.83	08 July 1963
2	136	-17.30	79.87	09 July 1963
2	137	-14.73	79.73	10 July 1963
2	138	-11.47	80	11 July 1963
2	139	-8.62	79.57	12 July 1963
2	140	-5.88	79.95	13 July 1963
2	141	-3.22	80.03	14 July 1963
2	142	-0.55	80.13	15 July 1963
2	143	1.90	79.87	16 July 1963
2	144	4.30	80.13	17 July 1963
3	145	11.93	60.88	13 August 1963
3	146	10.20	60.07	14 August 1963
3	147	7.22	59.95	16 August 1963
3	148	4.08	59.97	17 August 1963
3	149	1.27	60.13	19 August 1963
3	150	-2.00	59.98	20 August 1963
3	151	-5.07	60.05	22 August 1963
3	152	-7.35	59.73	24 August 1963
3	153	-11.65	58.03	27 August 1963
3	154	-22.97	59.75	04 September 1963
3	155	-25.92	60.02	05 September 1963
3	156	-29.40	60.08	07 September 1963
3	157	-31.97	59.85	08 September 1963
3	158	-34.95	60.08	09 September 1963
3	159	-38.37	59.85	11 September 1963
3	160	-40.90	60.02	12 September 1963
4A	161	-19.30	56.55	25 September 1963
4A	162	-17.63	54.97	26 September 1963
4A	163[1]	-14.92	55.03	27 September 1963
4A	164	-11.57	54.93	28 September 1963
4A	165	-8.30	55	30 September 1963
4A	166	-0.40	54.55	05 October 1963
4A	167	2.75	53.85	06 October 1963

[1] Corrected from 14.92°N

4A	168	5.87	52.93	07 October 1963
4A	169	8.95	52.28	08 October 1963
4A	170	12.07	51.52	09 October 1963
4A	172	14.73	51.03	15 October 1963
4A	173	15.45	52.83	16 October 1963
4A	174	16.45	54.65	17 October 1963
4A	175	17.43	56.48	17 October 1963
4A	176	16.48	57.15	18 October 1963
4A	177	15.30	57.72	19 October 1963
4A	178	14.35	58.3	19 October 1963
4A	179	13.20	58.97	19 October 1963
4A	180	12.25	59.7	20 October 1963
4A	181	14.15	61.12	21 October 1963
4A	182	15.97	62.55	22 October 1963
4A	183	23.72	66.35	28 October 1963
4A	184	23.55	65.83	29 October 1963
4A	185	20.65	64.68	30 October 1963
4A	186	21.52	64.1	30 October 1963
4A	187	22.38	63.53	31 October 1963
4A	188	23.32	62.83	31 October 1963
4A	189	24.00	62.07	01 November 1963
4A	191	23.95	60.97	01 November 1963
4A	192	23.13	60.53	02 November 1963
4A	193	22.80	59.57	02 November 1963
4A	194	22.37	60.08	03 November 1963
4A	195	21.52	60.68	03 November 1963
4A	196	20.73	60.25	04 November 1963
4A	197	20.03	62	04 November 1963
4A	198	19.28	62.48	05 November 1963
4A	199	18.52	63.13	05 November 1963
4A	200	18.53	64.65	06 November 1963
5	282	16.22	63.48	29 January 1964
5	283	15.70	60.87	30 January 1964
5	284	15.37	58.12	31 January 1964
5	285	14.37	54.3	01 February 1964
5	286	13.83	52.98	02 February 1964
5	287	13.18	50.37	03 February 1964
5	288	9.47	54.87	05 February 1964
5	289	7.17	55.08	06 February 1964
5	290	5.03	55.02	07 February 1964
5	291	2.52	55.07	08 February 1964

5	292	1.05	54.77	09 February 1964
5	293	-0.52	54.93	10 February 1964
5	294	-2.85	54.97	11 February 1964
5	295	-6.47	55.2	16 February 1964
5	296	-8.70	55.12	17 February 1964
5	297	-10.78	55.25	18 February 1964
5	298	-12.55	54.55	19 February 1964
5	299	-14.95	54.72	20 February 1964
5	300	-17.30	54.38	21 February 1964
5	301	-19.95	54.63	03 March 1964
5	302	-23.12	54.83	04 March 1964
5	303	-26.00[2]	54.87	05 March 1964
5	304	-28.37	55.03	06 March 1964
5	305	-30.83	55.03	07 March 1964
5	306	-33.22	55.17	08 March 1964
5	307	-35.70	55.25	09 March 1964
5	308	-40.07	75	04 April 1964
5	309	-42.38	74.9	05 April 1964
5	310	-37.02	75.32	09 April 1964
5	311	-34.52	74.78	10 April 1964
5	312	-31.43	74.95	12 April 1964
5	314	-26.45	75.03	13 April 1964
5	315	-24.33	74.87	14 April 1964
5	316	-21.97	74.92	15 April 1964
5	317	-19.73	75.33	16 April 1964
5	318	-16.72	74.88	17 April 1964
5	319	-14.17	74.92	18 April 1964
5	320	-11.78	74.7	19 April 1964
5	321	-9.35	75.13	20 April 1964
5	322[3]	6.83	75.03	21 April 1964
5	323	-4.18	75	22 April 1964
5	324	-2.30	75.3	23 April 1964
5	325	1.07	75.12	28 April 1964
5	326	3.87	74.95	29 April 1964
5	327	6.85	75.03	30 April 1964
6	328	18.03	65.13	17 May 1964
6	329	15.60	64.98	19 May 1964
6	330	13.60	65.05	20 May 1964
6	331	11.47	65.07	21 May 1964

[2] Corrected from 26°N

[3] Corrected from 6.83°N

6	332	10.02	65.02	22 May 1964
6	333	7.93	64.93	23 May 1964
6	334	6.02	64.98	24 May 1964
6	335	3.97	65.03	25 May 1964
6	336	2.02	65.05	26 May 1964
6	337	-0.50	65.13	28 May 1964
6	338	-2.63	65.02	29 May 1964
6	340	-6.00	65.17	31 May 1964
6	342	-9.97	64.92	02 June 1964
6	343	-12.20	65.48	04 June 1964
6	344	-14.18	65.28	05 June 1964
6	346	-19.28	65.5	08 June 1964
6	347	-22.10	64.92	23 June 1964
6	348	-24.02	64	24 June 1964
6	349	-26.10	64.97	25 June 1964
6	350	-28.47	65.05	27 June 1964
6	351	-30.10	64.97	28 June 1964
6	353	-37.97	64.98	02 July 1964
6	355	-29.63	49.38	12 July 1964
7	358	-29.20	32.1	30 July 1964
7	359	-28.58	32.67	31 July 1964
7	360	-27.63	33.4	31 July 1964
7	361	-26.58	35.95	01 August 1964
7	362	-24.88	39.3	03 August 1964
7	363	-23.77	43.13	05 August 1964
7	365	-23.32	43.55	12 August 1964
7	366	-23.22	43.22	12 August 1964
7	367	-22.57	41.27	13 August 1964
7	368	-23.07	38.58	16 August 1964
7	369[4]	-23.80	36.8	17 August 1964
7	370	-24.32	35.77	17 August 1964
7	371	-24.70	35.38	18 August 1964
7	374	-26.95	33.55	22 August 1964
7	375	-27.97	35.27	24 August 1964
7	376	-29.37	37.52	25 August 1964
7	377	-30.15	38.65	27 August 1964
7	378	-30.85	40.18	28 August 1964
7	379	-32.37	42.92	29 August 1964
7	380	-32.97	43.62	30 August 1964
7	382	-34.13	41.25	31 August 1964

[4] Corrected from 23.80°N

7	383	-34.95	38.82	01 September 1964
7	384	-35.73	36.78	02 September 1964
7	385	-34.25	36.07	03 September 1964
7	386	-32.92	35.35	04 September 1964
7	387	-31.95	34.3	05 September 1964
7	388	-30.75	32.63	06 September 1964
7	389	-30.17	32.15	07 September 1964
8	395	-29.48	32.07	26 September 1964
8	396	-25.57	33.32	28 September 1964
8	398	-26.28	34.07	29 September 1964
8	399	-22.50	36.12	01 October 1964
8	400	-21.18	36.38	02 October 1964
8	404	-18.87	37.68	10 October 1964
8	405	-18.55	39.8	10 October 1964
8	406	-18.07	41.87	12 October 1964
8	407	-17.68	42.52	13 October 1964
8	410	-15.42	44.37	20 October 1964
8	411	-14.40	46.13	21 October 1964
8	412	-13.37	47.9	22 October 1964
8	413	-12.93	46.72	29 October 1964
8	414	-12.60	45.92	30 October 1964
8	415	-10.57	44.38	31 October 1964
8	416	-8.75	43.65	01 November 1964
8	417	-7.05	42.57	02 November 1964
8	418	-5.17	41.67	03 November 1964
8	419A	-3.57	40.88	05 November 1964
8	419B	-3.57	40.88	05 November 1964
8	420A	-3.12	40.65	05 November 1964

Appendix 3
Data from Smithsonian Institution's National Museum of Natural History

Data on specimens available at the Smithsonian Institution's National Museum of Natural History were downloaded on 17 October 2018 from https://naturalhistory.si.edu/rc/. Searches were done using the keyword "Bruun" for invertebrates and fish at the following site: https://naturalhistory.si.edu/rc/. The botany, entomology, mammals, amphibians and reptiles, and birds databases were also searched, but no records were found.

After downloading the data, the file was sorted and the only records kept were

- records with an "Expedition Name" of "IIOE - International Indian Ocean Expedition" or "IIOE"
- records that did not list an expedition but listed the vessel as the "Anton Bruun" and were taken from the Indian Ocean in the proper time period

The records with no station numbers were eliminated. The Smithsonian records include specimens from shore expeditions that were part of Cruise 9, which do not appear in the official cruise reports.

The table below shows the data from the Smithsonian archives and how they relate to the data provided by the cruise reports. Many of the Smithsonian data vary from the data in the cruise reports and for some stations, multiple geographic coordinates and/or dates are given. The data given in the cruise reports are considered to be the authoritative data because they were recorded during the cruises. If a date range given in the cruise report coincides with a single date in the Smithsonian record or vice versa, the dates are considered equivalent.

The data in the table below fall into several categories:

- Data from the Smithsonian exactly match the data from the cruise reports. For these records, "12" is listed in the Reference column of the master spreadsheet and " ✔ " is listed in the table below.
- The cruise number, date, latitude (lat.) and/or longitude (long.) in the Smithsonian data do not match the data from the cruise report. In this case, the discrepancy is noted in the right-most column below and the alternate data are noted in the master spreadsheet.

In some cases, the Smithsonian records do not list a substation, like "A", where they should list this to coincide with the cruise reports. Where there are multiple entries for a single station number, with different information, if one is marked with a " ✔ ", it means that that entry matches the data in the cruise report. For the other records at the same station, the data that are not accurate are noted.

Cruise	Station Number	Date Collected	Centroid Latitude	Centroid Longitude	Database	Discrepancies from cruise reports
A	3	25-Mar-63	1.02	50.07	Fish	Date, lat., long.
A	3	3-Mar-63	12.87	94.22	Fish	Date, lat., long.
3	4	18-Aug-63	3.67	60.13	Fish	Cruise #, date, lat., long.
3	6	21-Aug-63	-1.95	59.93	Fish	Cruise #, date, lat., long
3	8	24-Aug-63	-7.47	59.83	Fish	Cruise #, date, lat., long.
3	8	19-Aug-63	1.38	60.18	Fish	Cruise #, date, lat., long.
3	9	26-Aug-63	-11.93	58.28	Fish	Cruise #, date, lat., long.
A	10	2-Mar-63	16.67	64.00	Fish	Lat., Lond
3	11	5-6 Sep 1963	-25.99	60.06	Fish	Date, lat., long.
3	11	23-Aug-63	-5.05	60.17	Fish	Date, lat., long.
3	12	23-Aug-63	-4.87	60.03	Fish	Date, lat., long.
3	13	24-Aug-63	-7.47	59.83	Fish	Date, lat., long.
3	13	24-Aug-63	-7.60	59.93	Fish	Date, lat., long.
1	14	19-20 Mar 1963	7.45	94.35	Fish	✔
1	16D	20-Mar-63	7.52	96.18	Invertebrates	✔
1	17	21-Mar-63	7.67	97.15	Fish	✔
3	17	13-Sep-63	-44.22	60.23	Fish	Cruise #, date, lat., long.
1	18	22-Mar-63	8.08	97.73	Fish	Date, lat., long.
1	18A	21-Mar-63	7.57	98.00	Fish	✔
1	20	23-Mar-63	9.22	97.85	Fish	✔
3	20	8-Sep-63	-31.97	59.75	Fish	Date, lat., long.
1	21	24-Mar-63	9.90	97.70	Fish	✔
1	22	24-Mar-63	10.62	97.57	Invertebrates and Fish	✔
3	22	9-Sep-63	-34.93	60.08	Fish	Cruise #, date, lat., long.
1	22A	24-Mar-63	10.65	97.10	Fish	✔
1	22A	24-Mar-63	10.62	97.57	Fish	Lat., long.
1	22A	24-Mar-63	11.52	98.10	Invertebrates	Lat., long.
1	22B	24-Mar-63	10.65	97.10	Fish	✔
1	23	24-Mar-63	10.65	96.58	Invertebrates and Fish	✔
1	24	25-Mar-63	10.60	95.65	Fish	✔
1	27	26-Mar-63	10.62	92.98	Fish	✔
1	28	27-Mar-63	11.82	92.88	Invertebrates and Fish	✔
1	28A	27-Mar-63	11.87	92.82	Fish	Long.
1	28C	27-Mar-63	12.05	92.95	Fish	✔
1	29	28-Mar-63	11.38	93.52	Invertebrates and Fish	✔

1	31	28-Mar-63	12.88	93.38	Invertebrates	✔
1	32	28-Mar-63	12.87	94.22	Fish	✔
1	33	29-Mar-63	12.95	95.02	Fish	✔
1	35	30-31 Mar 1963	12.85	96.57	Fish	✔
1	36	30-Mar-63	12.87	97.67	Invertebrates and Fish	✔
1	36A	30-Mar-63	13.00	97.68	Fish	✔
1	37	30-Mar-63	13.47	97.32	Invertebrates and Fish	✔
1	38	30-Mar-63	14.12	97.08	Invertebrates and Fish	✔
1	39	31-Mar-63	14.70	97.08	Invertebrates	Long.
1	39A	31-Mar-63	14.87	96.65	Fish	✔
1	40	31-Mar-63	15.33	96.40	Fish	✔
1	40	31-Mar-63	15.30	96.40	Fish	Lat.
1	40	30-Apr-63	15.33	96.40	Invertebrates	Date
1	41	30-Apr-63	15.07	95.85	Invertebrates and Fish	Date
1	41A	31 Mar-1 Apr 1963	15.07	95.85	Fish	Lat., long
1	42	1-Apr-63	15.13	94.90	Fish	✔
1	42	1-Apr-63	16.13	94.90	Invertebrates	Lat.
1	43	1-Apr-63	15.13	94.07	Invertebrates and Fish	✔
1	44	4-Apr-63	21.90	91.60	Fish	Lat.
1	44	4-Apr-63	21.87	91.60	Invertebrates and Fish	✔
1	44A	4-Apr-63	21.72	91.55	Fish	✔
1	45	4-Apr-63	21.53	91.48	Invertebrates and Fish	✔
1	46	5-Apr-63	21.00	91.98	Invertebrates and Fish	Date
1	47	5-Apr-63	20.45	92.33	Invertebrates and Fish	✔
1	47A	5-Apr-63	20.27	92.53	Fish	✔
1	47B	5-Apr-63	19.83	92.92	Fish	✔
1	48	5-Apr-63	19.68	93.13	Invertebrates and Fish	✔
1	48A	5-Apr-63	19.63	93.15	Fish	✔
1	49	5-6 Apr 1963	19.53	92.87	Fish	✔
1	49	6-Apr-63	19.53	92.87	Invertebrates	Date
1	50	6-Apr-63	19.38	92.55	Fish	✔
1	52A	6-7 Apr 1963	18.92	92.07	Fish	✔
1	55	8-Apr-63	18.33	90.10	Fish	✔
1	60	9-Apr-63	17.90	86.52	Invertebrates	✔
1	61	9-Apr-63	17.88	85.93	Fish	✔
1	63A	10-Apr-63	17.72	84.03	Invertebrates	✔ , listed as station 63
1	76	18-Apr-63	12.93	92.17	Fish	✔
1	87K	23-Apr-63	19.58	85.68	Invertebrates	✔
2	106	23-May-63	17.65	70.43	Invertebrates	Lat., long.

2	107A	24-May-63	15.02	70.15	Invertebrates	✔ , listed as station 107
2	108	25-May-63	13.83	70.12	Invertebrates	✔
2	109A	26-May-63	11.47	69.93	Invertebrates	✔ , listed as station 109
2	110	27-May-63	9.77	70.10	Fish	✔
2	110A	27-May-63	9.43	69.98	Invertebrates	✔ , listed as station 110
2	111A	28-May-63	7.13	69.95	Invertebrates	✔ , listed as station 111
2	112	29-May-63	5.80	70.05	Invertebrates	✔
2	115	1-Jun-63	-1.12	71.00	Invertebrates and Fish	✔
2	115A	1-Jun-63	-1.17	71.13	Invertebrates	✔
2	116A	2-Jun-63	-2.95	70.00	Invertebrates	✔
2	117A	3-Jun-63	-5.90	69.78	Invertebrates	✔
2	119A	6-Jun-63	-9.43	70.05	Invertebrates	✔
2	120A	7-Jun-63	-12.07	70.03	Invertebrates	✔
2	121A	8-Jun-63	-14.23	70.03	Invertebrates	✔
2	123	10-Jun-63	-17.30	70.08	Invertebrates	✔
2	124	11-Jun-63	-19.65	69.90	Invertebrates	Lat., long.
2	124A	11-Jun-63	-19.53	68.77	Invertebrates	✔
2	124C	13-Jun-63	-19.45	58.85	Fish	✔
2	124D	14-Jun-63	-19.78	57.47	Fish	✔
2	124E	14-Jun-63	-19.90	57.60	Invertebrates	✔
2	124F	24-Jun-63	-21.35	65.87	Invertebrates	✔
2	125A	25-Jun-63	-22.62	68.07	Invertebrates	✔ , listed as station 125
2	127	27-Jun-63	-26.38	69.90	Invertebrates	Lat., long
2	128	28-Jun-63	-28.55	69.93	Fish	Long.
2	129A	29-Jun-63	-31.47	69.87	Invertebrates	✔
2	131	1-Jul-63	-35.15	69.98	Invertebrates	✔
2	132	2-Jul-63	-37.20	70.17	Invertebrates	✔
2	132A	2-Jul-63	-36.87	70.65	Invertebrates	✔
2	133A	5-Jul-63	-29.40	79.80	Invertebrates	✔
2	134	6-Jul-63	-27.52	80.10	Invertebrates	Long.
2	139	12-Jul-63	-8.53	79.80	Invertebrates	Lat., long
2	140	13-Jul-63	-5.88	79.95	Invertebrates and Fish	✔
2	141	14-Jul-63	-3.22	80.03	Fish	✔
2	142	15-Jul-63	-0.60	80.10	Invertebrates	Lat., long
2	143	16-Jul-63	1.90	79.87	Invertebrates	✔
3	145	13-Aug-63	11.93	60.83	Invertebrates	Long.
3	145	13-Aug-63	12.00	60.90	Fish	Lat., long
3	145	13-14 Aug 1963	11.93	60.90	Fish	Date, Long.
3	146	15-Aug-63	10.08	59.97	Invertebrates and Fish	Lat., long.

3	147	16-Aug-63	7.22	59.95	Invertebrates	✔
3	147	16-Aug-63	7.23	59.88	Fish	Lat., long
3	147	16-Aug-63	6.90	59.92	Fish	Lat., long
3	147	16-Aug-63	7.23	59.88	Fish	Lat., long.
3	148	18-Aug-63	4.08	59.97	Fish	Date
3	148	18-Aug-63	3.92	60.13	Fish	Lat., long.
3	148	18-Aug-63	4.20	60.13	Fish	Lat., long.
3	148	18-Aug-63	4.07	60.13	Invertebrates and Fish	Lat., long.
3	149	19-Aug-63	1.38	60.13	Invertebrates and Fish	Lat.
3	149	19 Aug 1963	1.38	60.18	Fish	Lat., long.
3	150	21-Aug-63	-1.95	59.93	Invertebrates and Fish	Date, Lat., long.
3	150	21-Aug-63	-2.00	59.98	Fish	Date
3	150	21-Aug-63	-1.80	60.03	Fish	Date, lat., long.
3	150	21-Aug-63	-2.10	60.03	Fish	Date, lat., long.
3	150	21-Aug-63	-2.03	60.07	Fish	Date, lat., long.
3	151	23-Aug-63	-4.87	60.03	Fish	Date, lat., long.
3	151	24-Aug-63	-5.07	60.05	Fish	Date
3	151	23-Aug-63	-4.96	60.10	Invertebrates and Fish	Date, lat., long.
3	152	24-Aug-63	-7.35	59.73	Invertebrates	✔
3	152	24-Aug-63	-7.47	59.83	Fish	Lat, long.
3	152	24-Aug-63	-7.60	59.93	Fish	Lat, long.
3	153	26-Aug-63	-11.93	58.28	Invertebrates	Date, lat., long.
3	153	28-Aug-63	-12.15	58.58	Fish	Date, lat., long.
3	154	4-Sep-63	-22.97	59.75	Invertebrates	✔
3	154	4-5 Sep 1963	-23.20	59.95	Fish	Date, lat., long.
3	155	5-6 Sep 1963	-25.87	60.00	Fish	Date, lat., long.
3	156	6-Sep-63	-29.40	60.08	Fish	✔
3	156	6-7 Sep 1963	-28.90	60.00	Fish	Date, lat., long.
3	156	6-7 Sep 1963	-29.06	60.05	Fish	Date, lat., long.
3	156	7-Sep-63	-29.06	60.05	Invertebrates	Date, lat., long.
3	156	7-Sep-63	-29.22	60.08	Fish	Date, lat
3	157	8-Sep-63	-32.18	59.50	Fish	Date, lat., long.
3	157	8-Sep-63	-31.97	59.75	Fish	Date, long
3	157	8-Sep-63	-31.97	59.85	Invertebrates	Date
3	157A	7-Sep-63	-31.97	59.85	Fish	Date, lat., long.
3	158	9-Sep-63	-35.00	60.00	Invertebrates	Lat., long.
3	158	9-Sep-63	-34.93	60.08	Fish	Lat.
3	159	11-Sep-63	-38.37	59.85	Invertebrates	Date
3	159	10-11 Sep 1963	-38.41	59.86	Fish	Date, lat., long.
3	159	11-Sep-63	-38.48	59.87	Fish	Date, lat., long.
3	160	12-Sep-63	-41.12	60.00	Fish	Lat., long.

3	160	12-Sep-63	-40.90	60.02	Invertebrates	✔
4A	161	25-Sep-63	-19.23	56.55	Invertebrates	✔
4A	167	6-7 Oct 1963	2.75	53.85	Fish	✔
4A	170C	13-Oct-63	12.80	46.60	Fish	Lat., long.
4A	172	15-Oct-63	14.73	51.03	Invertebrates	✔
4A	173	16-Oct-63	15.45	52.83	Invertebrates	✔
4A	174	17-Oct-63	16.45	54.65	Invertebrates	✔
4A	175	17-Oct-63	17.43	56.48	Invertebrates	✔
4A	176	18-Oct-63	16.48	57.15	Invertebrates	✔
4A	177	19-Oct-63	15.30	57.72	Invertebrates	✔
4A	178	19-Oct-63	14.35	58.30	Invertebrates	✔
4A	179	19-Oct-63	13.20	58.97	Invertebrates	✔
4A	180	20-Oct-63	12.25	59.70	Fish	✔
4A	181	21-Oct-63	14.15	61.12	Invertebrates	✔
4A	182	22-Oct-63	15.97	62.55	Invertebrates	✔
4A	183	28-Oct-63	23.72	66.35	Invertebrates	✔
4A	184	29-Oct-63	22.55	65.83	Invertebrates	✔
4A	185	31-Oct-63	20.65	64.68	Invertebrates	Date
4A	186	30-Oct-63	21.52	64.10	Invertebrates	✔
4A	186	30-Oct-63	21.50	64.13	Fish	Lat., long.
4A	187	31-Oct-63	22.38	63.53	Invertebrates	✔
4A	188	31-Oct-63	23.32	62.83	Invertebrates	✔
4A	189	1-Nov-63	24.00	62.07	Invertebrates	✔
4A	191	1-Nov-63	23.95	60.97	Invertebrates	✔
2	197	3-Sep-63	-1.50	8.45	Fish	Cruise #, date, lat., long.
4B	201A	13-Nov-63	17.90	72.45	Invertebrates	✔
4B	201A	13-Nov-63	17.93	72.42	Fish	Lat., long.
4B	202A	13-Nov-63	17.38	71.67	Fish	Lat., long.
4B	202A	13-Nov-63	17.37	71.70	Invertebrates	Lat., long.
4B	202B	14-Nov-63	17.68	71.55	Invertebrates	✔
4B	202B	14-Nov-63	17.72	71.54	Fish	Lat., long.
4B	202C	14-Nov-63	18.45	71.22	Invertebrates and Fish	✔
4B	202C	14-Nov-63	18.46	71.18	Fish	Lat., long.
4B	203A	14-Nov-63	19.12	71.68	Invertebrates	✔
4B	203B	14-Nov-63	19.78	72.07	Invertebrates and Fish	✔
4B	203B	14-Nov-63	19.81	72.08	Fish	Lat., long.
4B	203C	15-Nov-63	20.37	71.78	Fish	✔
4B	203C	15-Nov-63	20.37	71.76	Fish	Long.
4B	203C	14-Nov-63	20.37	71.76	Invertebrates	Date, long.
4B	204A	15-Nov-63	20.50	70.87	Invertebrates and Fish	Long.
4B	205A	15-Nov-63	20.72	70.29	Fish	Lat., long.

4B	206A	15-Nov-63	20.38	70.00	Fish	✔
4B	206A	15-Nov-63	20.36	69.96	Fish	Lat., long.
4B	206A	15-Nov-63	-20.36	70.14	Invertebrates	Lat., long.
4A	206A	6-Nov-63	20.38	70.00	Invertebrates	Date
4B	207A	16-Nov-63	19.93	69.40	Fish	✔
4B	207A	16-Nov-63	19.89	69.40	Invertebrates	Lat.
4B	208A	16-Nov-63	20.58	69.30	Fish	✔
4B	208A	16-Nov-63	20.60	69.30	Fish	Lat.
4B	208A	16-Nov-63	20.62	69.37	Invertebrates	Lat., long.
4B	209A	16-Nov-63	20.82	69.68	Fish	✔
4B	209A	16-Nov-63	20.84	69.67	Invertebrates	Lat., long.
4B	210A	16-Nov-63	21.13	69.80	Fish	Lat.
4B	210B	16-Nov-63	21.12	69.80	Invertebrates	✔
4B	211A	16-Nov-64	21.38	69.77	Fish	✔
4B	211A	16-Nov-63	21.39	69.75	Fish	Lat., long.
4B	212A	16-Nov-63	21.47	69.43	Invertebrates and Fish	Lat., long.
4B	213A	17-Nov-63	21.18	69.27	Invertebrates and Fish	✔
4B	213A	17-Nov-63	21.16	69.24	Fish	Lat., long.
4B	214A	17-Nov-63	21.27	68.32	Fish	✔
4B	215A	17-Nov-63	21.35	68.42	Fish	✔
4B	215A	17-Nov-63	21.35	68.43	Fish	Long.
4B	215A	17-Nov-63	21.35	68.50	Invertebrates	Long.
4B	216A	17-Nov-63	21.82	68.92	Invertebrates and Fish	✔
4B	216A	18-Nov-63	22.05	68.32	Fish	Lat., long.
4B	216A	17-Nov-63	21.84	68.92	Fish	Lat.
4B	217A	18-Nov-63	22.33	68.69	Fish	Lat., long.
4B	218A	18-Nov-63	22.05	68.32	Fish	✔
4B	218A	18-Nov-63	22.04	68.30	Invertebrates	Lat., long.
4B	219A	18-Nov-63	21.87	68.10	Fish	✔
4B	219A	18-Nov-63	21.89	68.10	Fish	Lat.
4B	219A	18-Nov-63	21.89	68.10	Invertebrates	Lat.
4B	220A	18-Nov-63	22.23	67.70	Fish	✔
4B	221A	18-Nov-63	22.53	68.12	Invertebrates and Fish	✔
4B	221A	18-Nov-63	22.53	68.10	Fish	Long.
4B	222A	18-Nov-63	22.75	68.40	Fish	✔
4B	222A	18-Nov-63	22.73	68.38	Invertebrates and Fish	Lat., long.
4B	223A	19-Nov-63	22.90	68.60	Fish	✔
4B	223A	19-Nov-63	22.88	68.58	Fish	Lat., long.
4B	223A	19-Nov-63	22.87	68.60	Invertebrates	Lat.
4B	224A	19-Nov-63	23.01	68.15	Invertebrates and Fish	Lat., long.
4B	225A	19-Sep-63	23.27	64.80	Fish	Long.

4B	225A	19-Nov-63	23.23	67.82	Fish	Lat., long.
4B	226A	19-Nov-63	22.97	67.53	Invertebrates	✔
4B	226A	19-Nov-63	22.95	67.51	Fish	Lat., long.
4B	227A	19-Nov-63	22.63	67.18	Fish	✔
4B	227A	19-Nov-63	22.62	67.16	Fish	Lat., long.
4B	227B	19-Nov-63	22.60	67.13	Invertebrates	✔
4B	228A	20-Nov-63	23.75	67.43	Fish	✔
4B	228A	20-Nov-63	23.75	23.72	Invertebrates	Lat., long.
4B	228A	20-Nov-63	23.73	67.41	Fish	Lat., long.
4B	229A	20-Nov-63	23.72	67.10	Fish	✔
4B	229A	20-Nov-63	23.70	67.08	Fish	Lat., long.
4B	230A	20-Nov-63	23.49	66.90	Fish	Lat., long.
4B	230B	20-Nov-63	23.52	66.92	Invertebrates	✔
4B	231A	20-Nov-63	23.26	66.66	Invertebrates and Fish	Lat., long.
4B	233A	21-Nov-63	24.02	66.55	Fish	✔
4B	233A	21-Nov-63	24.03	66.58	Fish	Lat., long.
4B	234A	21-Nov-63	24.28	67.08	Fish	✔
4B	237A	22-Nov-63	25.07	65.43	Invertebrates and Fish	✔
4B	237A	22-Nov-63	25.07	65.93	Fish	Long.
4B	239A	22-Nov-63	25.15	64.90	Invertebrates	✔
4B	240A	22-Nov-63	25.00	64.27	Fish	✔
4B	241A	22-Nov-63	24.92	63.88	Invertebrates and Fish	Lat., long.
4B	241B	27-Nov-63	25.12	63.80	Invertebrates	✔
4B	241C	27-Nov-63	25.12	63.80	Fish	✔
4B	241C	22-Nov-63	25.11	63.82	Invertebrates	Lat., long.
4B	242A	27-Nov-63	25.00	63.50	Invertebrates and Fish	✔
4B	242A	27-Nov-63	24.99	63.53	Fish	Lat., long.
4B	243A	28-Nov-63	24.90	61.85	Fish	Lat., long.
4B	243B	28-Nov-63	24.90	61.80	Invertebrates	✔
4B	244A	28-Nov-63	24.85	61.51	Invertebrates	Long.
4B	245A	28-Nov-63	24.92	61.17	Fish	✔
4B	246A	28-Nov-63	24.98	60.97	Invertebrates	Lat., long.
4B	247A	28-Nov-63	25.10	60.75	Fish	✔
4B	247A	28-Nov-63	25.10	60.71	Fish	Long.
4B	247B	28-Nov-63	25.10	60.75	Invertebrates	✔
4B	248A	29-Nov-63	25.17	60.45	Invertebrates and Fish	✔
4B	248A	29-Nov-63	25.15	60.42	Fish	Lat., long.
4B	249A	29-Nov-63	25.27	59.63	Invertebrates and Fish	Long.
4B	251A	29-Nov-63	25.33	59.03	Invertebrates	✔
4B	251A	29-Nov-63	25.31	59.06	Fish	Lat., long.
4B	251B	29-Nov-63	25.28	59.08	Invertebrates	✔

4B	252A	29-Nov-63	25.33	58.45	Invertebrates and Fish	✔
9	253A	29-Nov-63	25.42	58.33	Fish	✔
4B	253A	29-Nov-63	25.40	58.37	Invertebrates	Lat., long.
4B	254A	30-Nov-63	25.53	57.11	Fish	Lat., long.
4B	255A	30-Nov-63	25.83	57.12	Invertebrates	✔
4B	255A	30-Nov-63	25.79	42.12	Fish	Lat., long
4B	256A	30-Nov-63	26.17	57.03	Invertebrates and Fish	✔
4B	256A	30-Nov-63	26.19	57.03	Fish	Lat.
4B	257A	1-Dec-63	26.75	56.78	Fish	Lat.
4B	258A	1-Dec-63	26.95	56.71	Invertebrates and Fish	Lat., long.
4B	259A	1-Dec-63	26.58	56.42	Invertebrates	✔
4B	259A	1-Dec-63	26.60	56.42	Fish	Lat.
4B	260A	1-Dec-63	26.27	56.77	Fish	Lat.
4B	261A	1-Dec-63	25.88	56.88	Invertebrates and Fish	Lat.
4B	262A	1-Dec-63	25.62	56.57	Invertebrates	✔
4B	263A	2-Dec-63	25.20	56.78	Fish	✔
4B	263A	2-Dec-63	25.20	56.82	Fish	Long.
4B	263A	2-Dec-63	25.20	56.83	Invertebrates	Long.
4B	264A	2-Dec-63	25.03	56.87	Invertebrates	✔
4B	264A	2-Dec-63	25.08	56.87	Fish	Lat.
4B	265A	2-Dec-63	24.53	56.88	Invertebrates and Fish	✔
4B	266A	2-Dec-63	24.48	56.81	Invertebrates	Lat., long.
4B	268A	3-Dec-63	24.20	57.43	Fish	✔
4B	269A	3-Dec-63	23.72	58.38	Invertebrates and Fish	✔
4B	269A	3-Dec-63	23.74	58.38	Fish	Lat.
4B	269B	3-Dec-63	23.55	58.38	Fish	Long.
4B	269C	3-Dec-63	23.58	58.82	Invertebrates and Fish	✔
4B	270A	4-Dec-63	22.08	59.78	Fish	✔
4B	270A	4-Dec-63	22.11	59.79	Fish	Lat., long.
4B	270A	4-Dec-63	22.11	74.79	Invertebrates	Lat., long
4B	271A	4-Dec-63	21.95	59.73	Invertebrates	✔
4B	272A	4-Dec-63	21.47	59.47	Invertebrates and Fish	✔
4B	273A	4-Dec-63	20.83	59.17	Invertebrates and Fish	✔
4B	273A	4-Dec-63	20.85	59.17	Fish	Lat.
4B	274A	7-Dec-63	24.95	65.93	Invertebrates and Fish	✔
4B	274A	7-Dec-63	24.95	65.90	Fish	Long.
4B	275A	8-Dec-63	25.17	66.17	Fish	Lat., long.
4B	276A	8-Dec-63	25.25	66.32	Fish	Lat., long.
4B	277A	8-Dec-63	25.10	66.55	Fish	✔
4B	278A	8-Dec-63	24.83	66.19	Fish	Lat., long.
4B	278A	8-Dec-63	24.83	66.19	Fish	Lat., long.

4B	278A	8-Dec-63	24.83	66.25	Fish	Lat., long
4B	279A	9-Dec-63	24.17	65.90	Fish	✔
4B	279A	9-Dec-63	24.19	65.88	Invertebrates	Lat., long
4B	279B	9-Dec-63	24.22	65.87	Fish	✔
4B	280A	9-Dec-63	24.07	66.18	Fish	Lat., long
5	282	29-Jan-64	16.22	63.48	Invertebrates	✔
5	284A	31-Jan-64	15.07	56.85	Fish	✔
5	285A	1-Feb-64	14.03	54.13	Fish	✔
5	287	3-Feb-64	13.18	50.37	Fish	✔
5	287A	3-Feb-64	12.67	51.22	Fish	✔
5	287B	4-Feb-64	10.35	54.28	Invertebrates and Fish	✔
5	288	5-Feb-64	9.47	54.87	Invertebrates	✔
5	289	6-Feb-64	7.17	55.08	Invertebrates	✔
5	290A	7-Feb-64	3.90	55.02	Invertebrates	✔
5	291	8-Feb-64	2.52	55.07	Invertebrates	✔
5	292	9-Feb-64	1.05	54.77	Invertebrates	✔
5	293	10-Feb-64	-0.52	54.93	Invertebrates	✔
5	294	11-Feb-64	2.85	54.97	Invertebrates	Sign is wrong on lat.
5	294A	11-Feb-64	-3.62	55.37	Fish	✔
5	295	16-Feb-64	-6.47	55.20	Invertebrates	✔
5	296	17-Feb-64	-8.70	55.12	Invertebrates	✔
5	303	5-Mar-64	-26.00	54.87	Invertebrates and Fish	✔
5	304	6-Mar-64	-28.37	55.03	Fish	✔
5	305	7-Mar-64	-30.83	55.03	Invertebrates and Fish	✔
5	306	8-Mar-64	-33.22	55.17	Invertebrates and Fish	✔
5	307	9-Mar-64	-35.70	55.25	Invertebrates and Fish	✔
5	307D	1-Apr-64	-23.13	57.82	Invertebrates	Lat., long.
5	308	4-Apr-64	-40.07	75.00	Invertebrates	✔
5	309	5-Apr-64	-42.40	74.92	Invertebrates	Lat., long.
5	310	9-Apr-64	-37.02	75.32	Invertebrates	✔
5	311	10-Apr-64	-34.52	74.78	Invertebrates	✔
5	313	12-Apr-64	-29.00	74.85	Invertebrates	✔
5	314	13-Apr-64	-26.45	75.03	Invertebrates and Fish	✔
5	315	14-Apr-64	-24.33	74.87	Invertebrates	✔
5	315A	14-Apr-64	-24.27	75.00	Invertebrates	Lat., long.
5	316	15-Apr-64	-21.97	74.92	Invertebrates	✔
5	317	16-Apr-64	-19.73	75.33	Invertebrates	✔
5	318	17-Apr-64	-16.72	74.83	Invertebrates	Long.
5	319	18-Apr-64	-14.17	74.92	Invertebrates	✔
5	320	19-Apr-64	-11.78	74.70	Invertebrates	✔
5	321	20-Apr-64	-9.35	75.13	Invertebrates	✔

5	322	21-Apr-64	-6.83	75.03	Invertebrates and Fish	✔
5	323	22-Apr-64	-4.18	75.00	Invertebrates	✔
5	324	23-Apr-64	-2.23	75.23	Invertebrates	✔
5	325	28-Apr-64	1.07	75.12	Invertebrates	✔
5	327B	2-May-64	12.97	74.43	Fish	✔
6	328	17-May-64	18.03	65.13	Invertebrates	✔
6	328B	18-May-64	17.77	65.03	Invertebrates	✔
6	328B	18-May-64	17.67	65.02	Fish	Lat., long.
6	329B	19-May-64	15.80	65.00	Fish	Lat., long.
6	330A	19-May-64	14.13	65.00	Invertebrates	✔
6	330B	20-May-64	13.97	65.03	Invertebrates	✔
6	330B	20-May-64	13.97	65.03	Fish	✔ , listed as station 330
6	331A	21-May-64	12.12	65.02	Invertebrates	Long.
6	331B	21-May-64	11.78	65.02	Fish	✔ , listed as station 331
6	332A	22-May-64	9.93	64.98	Invertebrates	✔
6	332B	22-23 May 1964	9.60	64.93	Fish	✔ , listed as station 332
6	332B	22-May-64	9.48	64.93	Invertebrates	Lat.
6	332	22-May-64	10.07	64.98	Invertebrates	✔
6	332	22-May-64	10.02	65.02	Fish	Lat., long.
6	333A	23-May-64	7.92	64.92	Invertebrates	✔
6	333A	23-May-64	7.73	64.80	Fish	Lat., long.
6	333B	23-May-64	7.55	64.68	Invertebrates	✔
6	333B	23-24 May 1964	7.55	64.68	Fish	Date
6	333B	23-24 May 1964	7.44	64.68	Fish	Lat.
6	334	24-May-64	6.02	64.98	Fish	✔
6	334	5-Jun-64	-13.95	65.08	Fish	Date, lat., long.
6	334A	24-May-64	5.91	64.48	Invertebrates	Lat., long.
6	334B	24-25 May 1964	5.80	64.95	Fish	✔
6	334B	24-25 May 1964	5.80	64.95	Fish	Date
6	334B	24-May-64	5.64	64.92	Invertebrates and Fish	Date, lat., long.
6	335A	25-26 May 1964	4.03	65.05	Fish	✔
6	335A	25-May-64	3.90	65.07	Invertebrates and Fish	Lat., long.
6	335B	26-May-64	3.77	65.08	Fish	✔ , listed as station 335
6	335B	26-May-64	3.61	65.10	Fish	Lat., long.
6	336A	26-May-64	2.05	65.07	Invertebrates	✔
6	336A	26-27 May 1964	2.05	65.07	Fish	✔ , listed as station 336

6	336A	26-27 May 1964	1.94	65.08	Fish	Lat., long.
4	336B	27-May-64	1.83	65.10	Fish	✔ cruise # is wrong
6	336B	26-May-64	1.83	65.10	Invertebrates	✔ , listed as station 336
6	336B	27-May-64	1.73	65.11	Invertebrates and Fish	Lat., long.
6	337A	28-May-64	0.05	65.00	Fish	Date, lat.
6	337A	27-May-64	-0.09	65.03	Invertebrates and Fish	Lat., long.
6	337B	28-May-64	-0.23	65.05	Fish	✔
6	337B	28-May-64	-0.36	65.09	Invertebrates and Fish	Lat., long.
6	338A	28-May-64	-2.00	64.90	Invertebrates	✔
6	338B	29-May-64	-2.33	64.90	Fish	✔
6	338B	29-May-64	-2.48	64.96	Invertebrates and Fish	Lat., long.
6	339A	30-May-64	-4.02	65.00	Fish	✔
6	339A	30-May-64	-4.02	65.00	Fish	✔ , listed as station 339
6	339A	30-May-64	-4.13	65.02	Invertebrates and Fish	Lat., long.
6	339B	30-May-64	-4.23	65.03	Invertebrates and Fish	✔
6	340	31-May-64	-6.00	65.17	Invertebrates	✔
6	340A	31-May-64	-5.92	65.17	Invertebrates	✔
6	340B	31-May-64	-5.92	64.80	Invertebrates	✔
6	340B	1-Jun-64	-6.03	64.88	Fish	Lat., long.
6	341	1-2 Jun 1964	-7.94	65.04	Fish	Lat., long.
6	341A	1-Jun-64	-8.00	65.00	Invertebrates	✔
6	341B	1-2 Jun 1964	-7.93	65.23	Fish	✔ , listed as station 341, dates differ from CR
6	341B	1-2 Jun 1964	-7.94	65.04	Fish	Lat., long.
6	342	2-Jun-64	-9.97	64.92	Invertebrates	✔
6	342A	2-Jun-64	-9.95	64.92	Fish	✔
6	342A	2-Jun-64	-9.98	64.62	Fish	Lat.
6	342B	2-3 Jun 1964	-10.02	64.32	Fish	✔
6	342B	2-3 Jun 1964	-10.06	64.38	Fish	Lat., long.
6	343A	4-Jun-64	-12.17	64.90	Fish	✔
6	343A	4-Jun-64	-12.18	64.54	Invertebrates	Lat., long.
6	343B	4-Jun-64	-12.18	64.18	Invertebrates and Fish	✔
6	344	5-Jun-64	-14.18	65.28	Invertebrates	✔
6	344	5-Jun-64	-14.00	65.13	Fish	Lat., long.
6	344A	5-Jun-64	-13.95	65.08	Fish	✔
6	344A	5-Jun-64	-14.00	65.13	Invertebrates and Fish	Lat., long.
6	345	4-Jul-64	-40.85	64.82	Fish	Date, lat., long.
6	345A	6-Jun-64	-15.95	64.77	Invertebrates and Fish	✔
6	345E	7-Jun-64	-17.97	65.50	Fish	Long.

6	346A	8-Jun-64	-19.40	65.50	Invertebrates and Fish	✔
6	346A	8-Jun-64	-19.40	65.50	Fish	✔ , listed as station 346
6	347	23-Jun-64	-22.10	64.92	Invertebrates	✔
6	347A	23-Jun-64	-22.18	64.88	Invertebrates	✔
6	347B	24-Jun-64	-22.57	64.92	Fish	✔ , listed as station 347
6	347B	24-Jun-64	-22.68	64.92	Fish	Lat.
6	348	24-Jun-64	-24.02	65.00	Fish	✔
6	348A	24-25 Jun 1964	-24.05	65.00	Fish	✔ , listed as station 348, date differs from CR
6	348A	24-25 Jun 1964	-24.21	64.92	Fish	Lat., long.
6	348A	24-Jun-64	-24.21	64.92	Invertebrates	Lat., long.
6	348C	25-Jun-64	-24.48	64.83	Invertebrates and Fish	✔
6	349	26-Jun-64	-26.10	64.97	Fish	Date
6	349	25-Jun-64	-26.05	64.97	Invertebrates	Lat..
6	349A	26-Jun-64	-26.25	65.00	Invertebrates	Lat., long.
6	349B	26-Jun-64	-26.40	65.03	Invertebrates and Fish	✔
6	349B	26-Jun-64	-26.57	65.06	Fish	Lat., long.
6	350A	26-27 Jun 1964	-27.87	64.92	Fish	✔ listed as station 350
6	350A	26-Jun-64	-27.98	64.94	Invertebrates	Lat., long.
3	350B	27-Jun-64	-28.08	64.97	Fish	✔ listed as station 350,
6	350B	27-Jun-64	-28.28	65.02	Invertebrates and Fish	Lat., long.
6	351A	27-28 Jun 1964	-29.50	64.93	Fish	✔
6	351A	27-28 Jun 1964	-29.50	64.93	Fish	✔ listed as station 351
6	351A	27-28 Jun 1994	-29.63	64.95	Fish	Lat., long.
6	351A	27-Jun-64	-29.63	64.95	Invertebrates	Lat., long.
6	351B	28-Jun-64	-29.75	64.97	Fish	✔ listed as station 351
6	351B	28-Jun-64	-29.92	64.97	Fish	Long.
6	351B	28-Jun-64	-29.75	64.97	Invertebrates and Fish	✔
6	351D	29-Jun-64	-31.75	65.13	Invertebrates	✔
6	352	28-30 Jun 1964	-32.65	65.53	Fish	Date, lat., long.
6	352A	30-Jun-64	-34.06	64.93	Invertebrates and Fish	Lat., long
6	352B	30-Jun-64	-34.23	64.97	Invertebrates	✔
6	352B	30-Jun-64	-34.23	64.97	Fish	✔ listed as station 352
6	353A	2-Jul-64	-37.98	64.93	Invertebrates	✔
6	353A	2-Jul-64	-37.98	64.93	Fish	✔ listed as station 352
6	354A	4-Jul-64	-40.80	65.05	Invertebrates	✔

6	354B	4-Jul-64	-40.85	64.82	Invertebrates and Fish	✔
6	354B	4-Jul-64	-40.85	64.82	Fish	✔ listed as station 354
6	355	12-Jul-64	-29.63	49.38	Invertebrates	Date
6	355A	12-Jul-64	-29.63	49.35	Invertebrates and Fish	✔
6	355B	12-Jul-64	-29.43	49.17	Invertebrates and Fish	✔
6	355C	12-Jul-64	-29.48	48.72	Invertebrates and Fish	Lat.
7	356B	29-Jul-64	-29.18	31.62	Invertebrates	✔
7	356C	29-Jul-64	-29.17	31.67	Invertebrates	✔
7	356E	29-Jul-64	-29.20	31.70	Invertebrates	✔
7	357	29-Jul-64	-29.17	31.85	Invertebrates	✔
7	357A	30-Jul-64	-29.18	32.03	Invertebrates	✔
7	357C	30-Jul-64	-29.18	32.07	Invertebrates	✔
7	357E	30-Jul-64	-29.17	32.08	Invertebrates	✔
7	358A	30-Jul-64	-29.32	32.00	Invertebrates	✔
7	360B	1-Aug-64	-27.65	33.38	Invertebrates	✔
7	361B	2-Aug-64	-26.57	35.98	Invertebrates	✔
7	361D	2-Aug-64	-26.53	36.03	Invertebrates	✔
7	361G	2-Aug-64	-25.83	37.35	Invertebrates	✔
7	361H	2-Aug-64	-25.65	37.75	Invertebrates	✔
7	362D	3-Aug-64	-24.30	41.43	Invertebrates	listed as station 363, date differs from CR
7	363	4-Aug-64	-23.77	43.12	Invertebrates	✔
7	363B	5-Aug-64	-23.75	43.17	Invertebrates	✔
7	363E	5-Aug-64	-23.67	43.35	Invertebrates	✔
7	363G	5-Aug-64	-23.47	43.40	Invertebrates	Lat.
7	363J	5-Aug-64	-23.60	43.40	Invertebrates	✔
7	363K	5-Aug-64	-23.72	43.42	Invertebrates	✔
7	363L	6-Aug-64	-23.28	43.50	Invertebrates	✔
7	363P	6-Aug-64	-23.28	43.55	Fish	✔
7	363S	6-Aug-64	-23.30	43.60	Invertebrates	✔
7	363U	6-Aug-64	-23.32	43.58	Invertebrates	✔
7	364A	12-Aug-64	-23.33	43.60	Invertebrates and Fish	✔
7	365B	12-Aug-64	-23.32	43.55	Invertebrates	✔
7	365D	12-Aug-64	-23.33	43.53	Invertebrates	✔
7	366A	13-Aug-64	-23.15	43.15	Invertebrates	✔
7	367A	13-Aug-64	-22.60	41.30	Invertebrates	✔
7	367C	14-Aug-64	-23.62	41.37	Invertebrates	✔
7	367G	15-Aug-64	-22.70	39.32	Invertebrates	✔
7	368C	16-Aug-64	-23.00	38.62	Invertebrates	✔
7	369A	16-Aug-64	-23.80	37.78	Invertebrates	✔
7	369D	17-Aug-64	-24.07	36.27	Invertebrates	✔

7	369G	17-Aug-64	-24.20	36.03	Invertebrates	✔
7	370B	17-Aug-64	-24.42	35.78	Invertebrates	✔
7	370D	18-Aug-64	-24.47	35.60	Invertebrates	✔
7	370G	18-Aug-64	-24.67	35.47	Invertebrates	✔
7	370H	18-Aug-64	-24.68	35.47	Invertebrates	✔
7	371D	18-Aug-64	-24.77	35.33	Invertebrates and Fish	✔
7	371F	18-Aug-64	-24.77	35.30	Invertebrates	✔
7	371G	18-Aug-64	-24.82	35.22	Invertebrates	✔
7	372B	19-Aug-64	-24.80	34.98	Invertebrates	✔
7	372C	19-Aug-64	-24.77	34.83	Invertebrates	✔
7	372D	19-Aug-64	24.93	34.82	Invertebrates	Lat.
7	372G	19-Aug-64	-24.88	34.93	Invertebrates	✔
7	372H	19-Aug-64	-24.90	34.93	Invertebrates	✔
7	372J	19-Aug-64	-25.12	34.57	Invertebrates	✔
7	372M	19-Aug-64	-25.05	34.52	Invertebrates	✔
7	372P	22-Aug-64	-25.95	33.03	Invertebrates	✔
7	373B	22-Aug-64	-26.00	33.08	Invertebrates	✔
7	373E	22-Aug-64	-26.02	33.07	Invertebrates	Lat., long
7	373F	22-Aug-64	-26.03	33.13	Invertebrates	✔
7	373H	23-Aug-64	-26.97	33.90	Invertebrates	✔
7	374C	23-Aug-64	-27.15	34.15	Invertebrates	✔
7	374D	23-Aug-64	-27.13	34.12	Invertebrates	✔
7	376D	26-Aug-64	-29.33	37.43	Invertebrates	✔
7	379	29-Aug-64	-32.37	42.92	Fish	✔
7	379D	29-Aug-64	-32.45	43.00	Invertebrates	✔
7	380A	30-Aug-64	-32.97	43.62	Invertebrates	✔
7	381B	30-Aug-64	-33.22	43.88	Invertebrates	Lat.
7	386B	4-Sep-64	-32.92	35.35	Invertebrates	✔
7	389C	7-Sep-64	-30.20	32.02	Invertebrates	✔
7	389E	7-Aug-64	-30.15	31.62	Invertebrates	Date
7	389G	8-Sep-64	-29.95	31.52	Invertebrates	✔
7	390E	8-Sep-64	-29.70	31.63	Invertebrates	✔
7	390H	8-Sep-64	-29.63	31.60	Invertebrates	✔
7	390L	9-Sep-64	-29.58	31.63	Invertebrates	✔
7	390P	9-Sep-64	-29.57	31.65	Invertebrates	✔
7	390S	9-Sep-64	-29.58	31.70	Invertebrates and Fish	✔
7	391F	9-Sep-64	-29.43	31.77	Invertebrates	✔
7	391H	9-Sep-64	-29.35	31.58	Invertebrates	✔
7	392C	9-Sep-64	-29.30	31.55	Invertebrates	✔
7	392K	10-Sep-64	-29.32	31.43	Invertebrates and Fish	✔
8	393A	25-Sep-64	29.53	31.28	Invertebrates	Lat.

8	394A	25-Sep-64	-29.43	31.53	Invertebrates	✔
8	394B	25-Sep-64	-29.45	31.52	Invertebrates	✔
8	394B	25-Sep-64	-29.47	31.50	Fish	Lat., long
8	395A	26-Sep-64	-29.51	32.04	Invertebrates	Lat., long
8	396A	28-Sep-64	-25.57	33.32	Invertebrates	✔
8	396B	28-Sep-64	-25.53	33.40	Invertebrates	✔
8	396B	28-Sep-64	-25.52	33.44	Fish	Lat., long
8	396C	28-Sep-64	-25.48	33.58	Invertebrates	✔
8	396C	28-Sep-64	-25.49	33.60	Fish	Lat., long
8	397	28-Sep-64	-25.17	33.25	Fish	✔
8	397A	29-Sep-64	-25.20	34.07	Invertebrates	✔
8	397A	29-Sep-64	-25.24	34.06	Fish	Lat., long
8	397C	29-Sep-64	-26.12	34.18	Invertebrates and Fish	✔
8	397D	29-Sep-64	-26.23	34.07	Invertebrates	✔
8	398B	1-Oct-64	-22.39	35.89	Fish	Lat., long
8	398D	30-Sep-64	-25.77	34.48	Fish	✔ not in CR
8	399A	2-Oct-64	-22.55	36.17	Invertebrates	Date
8	399B	1-Oct-64	-22.50	36.12	Invertebrates	✔
8	399B	1-Oct-64	-22.53	36.14	Fish	Lat., long
8	399C	2-Oct-64	-21.30	36.30	Invertebrates	✔
8	399C	2-Oct-64	-21.26	36.38	Fish	Lat., long
8	400C	3-Oct-64	-20.50	35.72	Invertebrates and Fish	✔
8	400E	3-Oct-64	-20.60	35.88	Fish	Lat., long
8	401	3-Oct-64	-20.70	35.83	Fish	✔
8	401B	4-Oct-64	-19.83	36.35	Invertebrates and Fish	✔
8	401C	4-Oct-64	-19.85	36.35	Invertebrates and Fish	✔
8	401E	4-Oct-64	-19.83	36.35	Invertebrates	Lat., long
8	401F	4-Oct-64	-20.50	35.82	Invertebrates and Fish	✔
8	403A	9-Oct-64	-19.15	36.33	Fish	✔
8	403A	9-Oct-64	-10.15	36.33	Invertebrates	Lat.
8	403C	9-Oct-64	-19.13	36.68	Invertebrates	✔
8	403E	9-Oct-64	-19.15	36.92	Invertebrates	✔
8	404	10-Oct-64	-18.87	37.68	Fish	Date
8	405A	11-Oct-64	-18.43	40.32	Fish	✔ not in CR
8	406A	12-Oct-64	-18.08	41.92	Invertebrates	✔
8	406C	12-Oct-64	-18.45	41.33	Fish	✔ not in CR
8	406D	13-Oct-64	-18.45	41.28	Fish	✔
8	407	13-Oct-64	-17.78	42.50	Invertebrates and Fish	Lat., long
8	407A	13-Oct-64	-18.40	42.18	Invertebrates	✔
8	407B	13-Oct-64	-17.57	42.72	Fish	✔ not in CR
8	407C	13-Oct-64	-17.58	43.03	Invertebrates	✔

8	407E	14-Oct-64	-17.50	43.08	Fish	✔
8	407I	14-15 Oct 1964	-17.32	43.23	Invertebrates and Fish	✔
8	407J	15-Oct-64	-16.73	43.73	Invertebrates and Fish	✔
8	408A	15-Oct-64	-16.72	43.72	Invertebrates	✔
8	408A	9-Oct-64	-10.15	36.33	Invertebrates	Date, lat., long.
8	408B	15-Oct-64	-16.67	43.68	Invertebrates and Fish	✔
8	408D	15-Oct-64	-16.70	43.32	Invertebrates and Fish	✔
8	408F	16-Oct-64	-16.35	43.98	Invertebrates and Fish	✔
8	409A	17-Oct-64	-16.20	43.68	Invertebrates	✔
8	409C	17-18 Oct 1964	-16.22	43.77	Fish	✔
8	409C	17-Oct-64	-16.22	43.77	Invertebrates	✔
8	409E	18-Oct-64	-16.18	43.70	Invertebrates	✔
8	409F	18-Oct-64	-16.18	43.88	Fish	✔
8	409H	18-Oct-64	-16.20	43.90	Fish	✔
8	409I	19-Oct-64	-16.05	44.15	Invertebrates and Fish	✔
8	409K	19-Oct-64	-15.87	44.38	Invertebrates and Fish	✔
8	410A	20-Oct-64	-15.12	44.35	Invertebrates	✔
8	412C	22-Oct-64	-12.78	47.70	Fish	✔
8	412D	22-Oct-64	-12.77	47.75	Invertebrates and Fish	✔
8	412G	22-Oct-64	-12.76	47.83	Fish	✔
8	412H	22-Oct-64	-12.75	47.83	Fish	✔
8	412I	23-Oct-64	-12.72	48.20	Invertebrates	✔
8	412K	23-Oct-64	-12.88	48.22	Invertebrates and Fish	✔
8	412K2	28-Oct-64	-13.37	47.90	Fish	✔ not in CR
8	413A	29-Oct-64	-12.93	47.04	Invertebrates	Lat., long
8	414	29-Oct-64	-12.60	45.92	Fish	✔
8	414B	30-Oct-64	-12.13	44.20	Fish	✔
8	415A	31-Oct-64	-11.42	44.42	Invertebrates	✔
8	416A	1-Nov-64	-9.75	43.65	Invertebrates	Lat.
8	417	2-Nov-64	-7.05	42.57	Invertebrates	✔
8	418G	4-Nov-64	-4.25	41.00	Fish	✔
8	419A	5-Nov-64	-3.70	40.73	Invertebrates	✔
8	419A	5-Nov-64	-3.70	40.68	Fish	Long.
8	420	5-Nov-64	-3.12	40.65	Fish	✔
8	420A	6-Nov-64	-2.70	40.88	Invertebrates and Fish	✔
8	421A	7-Nov-64	-2.90	40.38	Invertebrates	✔
8	421C and/or D	6-Nov-64	-2.90	40.42	Fish	Date
8	421G	8-Nov-64	-2.93	40.47	Invertebrates and Fish	✔
8	421H	8-Nov-64	-2.83	40.52	Invertebrates and Fish	✔
9	422	19-Nov-64	-6.85	39.90	Invertebrates and Fish	✔

9	423	20-Nov-64	-6.87	39.90	Invertebrates and Fish	✔
9	425	20-Nov-64	-6.80	39.85	Invertebrates and Fish	✔
9	434	5-Dec-64	-10.27	50.18	Fish	✔
9	437	16-Dec-64	9.42	50.90	Invertebrates and Fish	✔
9	440	16-Dec-64	9.47	50.95	Invertebrates	✔
9	441	16-Dec-64	9.58	51.01	Invertebrates	Lat., long
9	442	16-Dec-64	9.55	50.98	Invertebrates	✔
9	442	16-Dec-64	9.58	50.98	Fish	Lat.
9	443	16-Dec-64	9.60	51.02	Invertebrates and Fish	✔
9	445	16-Dec-64	9.68	51.05	Invertebrates and Fish	✔
9	447	16-Dec-64	10.00	51.25	Fish	✔
9	447	16-Dec-64	10.05	51.25	Invertebrates	Lat.
9	448	16-Dec-64	10.05	51.25	Invertebrates	✔
9	449	16-Dec-64	10.05	51.25	Invertebrates and Fish	✔
9	451	17-Dec-64	11.07	51.25	Invertebrates and Fish	✔
9	453	17-Dec-64	11.18	51.23	Invertebrates and Fish	✔
9	455	17-Dec-64	11.25	51.20	Invertebrates	Could be station 454
9	456	17-Dec-64	11.23	51.13	Invertebrates and Fish	✔
9	459	17-Dec-64	11.30	51.13	Invertebrates and Fish	✔
9	461	17-Dec-64	11.35	51.15	Invertebrates and Fish	✔
9	463	17-Dec-64	11.40	51.58	Invertebrates and Fish	✔
9	465	18-Dec-64	11.62	5.45	Invertebrates	Long.
9	465	18-Dec-64	11.62	51.45	Fish	✔
9	466	18-Dec-64	11.63	51.45	Invertebrates	✔
9	467	18-Dec-64	11.87	51.37	Fish	✔
9	468	18-Dec-64	11.87	51.23	Invertebrates	✔
9	472	24-Dec-64	16.93	40.97	Invertebrates and Fish	✔
9	473	24-Dec-64	17.03	40.88	Invertebrates	✔
9	474B	25-Dec-64	19.60	38.77	Invertebrates	✔
9	474C	25-Dec-64	19.62	38.78	Invertebrates	✔
9	474D	25-Dec-64	19.63	38.83	Invertebrates	✔
9	474E	25-Dec-64	19.65	38.83	Invertebrates	✔
9	474F	25-Dec-64	19.67	38.85	Invertebrates	✔
9	476A	26-Dec-64	22.55	37.75	Invertebrates	✔
9	476B	26-Dec-64	22.62	37.75	Invertebrates	✔
9	476D	26-Dec-64	22.60	37.75	Invertebrates	✔
9	477	26-Dec-64	22.95	37.35	Fish	✔
9	478A	27-Dec-64	25.38	36.18	Invertebrates	✔
5	2548	12-Apr-64	-34.85	74.85	Invertebrates	No matching data in CR
	7085	6-7 Oct 1963	-28.90	60.02	Fish	No matching data in CR

	7110	9-10 Oct 1963	-35.15	59.95	Fish	No matching data in CR
6	7153	20-May-64	13.97	65.03	Fish	Station 330B?
6	7175	23-May-64	7.92	64.92	Fish	Station 333A?
6	7191	24-May-64	6.02	64.98	Fish	Station 334 or 334A?
6	7210	27-28 May 1964	0.05	65.00	Fish	No matching data in CR
6	7212	27-28 May 1964	0.05	65.00	Fish	No matching data in CR
6	7222	29-May-64	-2.33	64.90	Fish	No matching data in CR
6	7236	31-May-64	-5.91	65.17	Fish	No matching data in CR
6	7253	2-Jun-64	-9.95	64.92	Fish	Station 342A?
6	7255	2-3 Jun 1964	-10.02	64.32	Fish	Station 342B?
6	9682	12-May-64	18.80	72.62	Fish	No matching data in CR
3	AB 63-51	31-Jul-63	-10.00	60.00	Invertebrates	Not in CR
7	BETWEEN 363W & 364A	11-Aug-64	-23.33	43.60	Fish	Not in CR
2	D20	15-Jun-63	-20.30	57.35	Invertebrates	Not in CR
2	D21	16-Jun-63	-20.08	57.50	Invertebrates	Not in CR
9	HA-1	15-Nov-64	-4.08	39.68	Invertebrates and Fish	Not in CR
	HA-2	16-Nov-64	-4.09	39.68	Invertebrates	Not in CR
9	HA-7	22-Nov-64	-11.75	43.25	Invertebrates	Not in CR
9	HA-8	24-Nov-64	-12.83	45.27	Invertebrates	Not in CR
9	HA-10	24-Nov-64	-12.83	45.20	Invertebrates	Not in CR
	HA-11	25-Nov-64	-12.82	45.30	Invertebrates	Not in CR
9	HA-12	26-Nov-64	-12.88	45.27	Invertebrates	Not in CR
9	HA-16	3-Dec-64	-9.37	46.22	Invertebrates	Not in CR
9	HA-16	3-Dec-64	-9.38	46.23	Invertebrates	Not in CR
9	HA-16	3-Dec-64	-9.38	46.24	Invertebrates	Not in CR
9	HA-17	4-Dec-64	-9.38	46.24	Invertebrates	Not in CR
9	HA-19	8-Dec-64	-5.38	53.32	Invertebrates	Not in CR
9	HA-20	8-Dec-64	-5.42	53.32	Invertebrates	Not in CR
9	HA-31	3-Jan-65	27.23	33.88	Invertebrates	Not in CR
9	HA-32	4-Jan-65	27.28	33.78	Invertebrates	Not in CR
9	HA-33	5-Jan-65	27.27	33.78	Invertebrates	Not in CR
9	HA-34	5-Jan-65	27.28	33.78	Invertebrates	Not in CR
9	HA-36	7-Jan-65	27.29	33.81	Invertebrates	Not in CR
9	HA-38	10-Jan-65	27.31	33.79	Invertebrates	Not in CR
9	HA-39	12-Jan-65	27.28	33.78	Invertebrates	Not in CR
9	HV-15	26-Nov-64	-12.77	45.27	Invertebrates	Not in CR
9	KA-4	16-Nov-64	-4.08	39.68	Invertebrates	Not in CR

9	KA-8	18-Nov-64	-4.08	39.68	Invertebrates	Not in CR
9	KA-9	18-Nov-64	-4.08	39.68	Invertebrates	Not in CR
9	KA-13	22-Nov-64	-11.75	42.26	Invertebrates	Not in CR
9	KA-14	23-Nov-64	-12.77	45.25	Invertebrates	Not in CR
9	KA-16	24-Nov-64	-12.83	45.20	Invertebrates	Not in CR
9	KA-17	25-Nov-64	-12.77	45.27	Invertebrates	Not in CR
9	KA-19	26-Nov-64	-12.20	45.27	Invertebrates	Not in CR
9	KA-20	27-Nov-64	-11.68	43.24	Invertebrates	Not in CR
9	KA-22	Nov-64	-11.76	43.28	Invertebrates	Not in CR
9	KA-24	3-Dec-64	-9.38	46.23	Invertebrates	Not in CR
9	KA-35	6-Dec-64	-10.12	51.20	Invertebrates	Not in CR
9	KA-38	8-Dec-64	-5.38	53.32	Invertebrates	Not in CR
9	KA-47	11-Dec-64	-4.73	55.52	Invertebrates	Not in CR
9	KA-57	17-Dec-64	11.23	51.13	Invertebrates	Not in CR
3	Midwater Trawl 1	14-Aug-63	11.68	60.52	Fish	Not in CR
3	Midwater Trawl 1	13-Aug-63	12.00	60.90	Fish	Not in CR
3	Midwater Trawl 2	15-Aug-63	10.08	59.97	Fish	Not in CR
3	Midwater Trawl 3	16-Aug-63	7.23	59.88	Fish	Not in CR
3	Midwater Trawl 3	16-Aug-63	7.08	59.89	Fish	Not in CR
3	Midwater Trawl 3	16-Aug-63	7.08	59.89	Fish	Not in CR
3	Midwater Trawl 3	16-Aug-63	6.80	59.90	Fish	Not in CR
3	Midwater Trawl 3	16-Aug-63	6.80	59.90	Fish	Not in CR
3	Midwater trawl 5	19-Aug-63	1.38	60.13	Fish	Not in CR
3	Midwater trawl 6	21-Aug-63	-1.95	59.93	Fish	Not in CR
3	Midwater trawl 7	23-Aug-63	-4.66	59.98	Fish	Not in CR
4B	STA. W-PAKISTANI	27-Nov-63	25.11	63.80	Fish	Not in CR

Appendix 4
Notes on Equipment Used as Part of R/V *Anton Bruun* Cruises

Sampling details are described in each cruise report. Additional information about the sampling equipment is provided below and is available from (U.S. Program in Biology, 1963). All sampling equipment and methods are included for completeness of the record, even though descriptions of some methods were not found.

- **Anchor Fishing**

- **Corer:** corers are designed to collect undisturbed vertical sediment samples in circular or square shapes in such a way that the cores can be examined by depth within the seafloor
    - **Phleger Corers** (2 corers on the *Bruun*): this is a gravity corer designed to collect sediment samples down to a depth of about one meter.
    - **Trigger Corers**

- **Dredges:** dredges are metal devices designed to be dragged across the seafloor to collect rocks and organisms on the seafloor or slightly below the seafloor. Samples are collected in bags connected to the dredges.
    - **Benthic Dredge**: any dredge used to collect bottom samples
    - **Ockelman Dredge** (also known as Ockelman sledge):
    - **Rock Dredge:** dredge designed to withstand dragging over rocky bottoms and bringing back rock samples

- **Grab:** grabs are sampling devices designed to collect bottom sediments and any rocks and organisms on and below the bottom surface. They are lowered vertically from a stationary research vessel.
    - **Campbell Grab**: This grab has a collection area of 0.55 m^2 and a weight of 410 kg.
    - **Dietz-LaFond Snapper** (1 bottom sampler on the *Bruun*): bottom sediment sampler with spring- and weight-loaded jaws that close around a bottom sample upon contacting the seafloor (Lafond and Dietz, 1948). Made by G.M. Manufacturing.
    - **Van Veen Grab**: This device is a steel clamshell bucket that is closed after contacting the seafloor. It disturbs the sediments more than a coring device.

- **Hydrocast**: The basic sampling at each station included a “hydrographic cast to 1000 meters for temperature, salinity, dissolved oxygen, phosphate, nitrate, nitrite, silicate, ammonia” (U.S. Program in Biology International Indian Ocean Expedition News Bulletin for Participants No. 1, 1963)

- **Fishing lines**
  - **Bottom long line:** a long line is a horizontal fishing apparatus with hooks deployed at regular intervals from separate lines. A bottom long line is deployed on the bottom.
  - **Deep line**
  - **Flag line**
  - **Hand line**: A fishing line deployed by hand by an individual, rather than from a fishing rod.
  - **Long line**: noted to be "Japanese long line" (U.S. Program in Biology International Indian Ocean Expedition News Bulletin for Participants No. 1, 1963)
  - **Rod and reel**: Fishing rod and reel allow line to be let out and pulled in by an individual fisherman, and active hooking of individual fish. Includes fishing from stationary and moving (i.e., trolling) boats
  - **Set line**
  - **Trolling:** Fishing technique, typically using a rod and reel rig, in which a line with a lure and/or bait is towed behind a moving boat. Usually used for larger game fish that spend considerable time feeding in the surface ocean.

- **Nets**
  - **Bé multiple plankton sample (**2 sets**):** Bé sampler has 3 nets, ranges: 0-100, 100-250 and 250-500 meters, from Alpine Nets were 3/4 m^2, 0.33 mm mesh opening. Used for oblique tows, with a series of pressure-operated opening-closing plankton nets. Designed by Dr. Allan W.H. Bé (Lamont Geological Observatory; Bé et al., 1959).
  - **Cast Net:** Net is cast from shore to catch fish in shallow water.
  - **Dip Net**: dip nets are nets attached to poles and deployed from shore or from the decks of ships.
  - **FT-20 Net**
  - **Gill Net**: Gill nets are designed to catch fish when they swim through the mesh of the net and are caught by their gills.
  - **Indian Ocean Standard Net** (Currie, 1963) (6 nets on the *Bruun*): Purchased from Marine Biological Association, England; one-meter mouth, 0.33 mm mesh opening; 113 cm diameter. Tows were made from 200-meter depth vertically to the surface.
  - **M-O Net**
  - **MPS-0**
  - **P-M Net**
  - **P-Mps**
  - **NV-70**

- **Night light**: lights are deployed on the research vessel at night, attracting organisms to the surface, where they can be netted with a dip net

- **Nutrients**

    - Particulate and dissolved C, N, and Fe (see Menzel, 1962)

- **Phytoplankton, Pigments, and Primary Productivity:** (see Menzel, 1962)

- **Trawls:** fishing nets towed behind a vessel along the bottom or in the mid-water. Trawls typically have rectangular iron frames with netting attached to the mouth of the frame to catch organisms.
    - **Agassiz Trawl**: double-sided trawl that can be used to great depths because it has no electronics or other pressure-sensitive components.
    - **Benthic Trawl:** A trawl towed along the bottom, of which the Gulf of Mexico shrimp trawl (see next) is one type.
    - **Gulf of Mexico shrimp trawl**: "The trawl net is constructed of nylon webbing and is approximately 42 feet wide and 40 feet long. Horizontal spreading of the net is achieved by attaching an otter board to each wing. A bridle connects the otter boards to the main towing cable." (U.S. Program in Biology International Indian Ocean Expedition News Bulletin for Participants No. 2, 1963)
    - **Isaac-Kidd Midwater Trawl** (IKMT or IKMWT) (10 trawls were carried on the *Anton Bruun*): used for collection of macrozooplankton and micronekton.
    - **Menzies Trawl**

- **75M25 net**: 75 cm diameter, 0.064 mm mesh aperture (No. 25 mesh) (13), used to collect microplankton

- **75M3 net:** 75 cm diameter, 0.333 mm mesh aperture (No. 3 mesh) (13)

- **Poison Station:** sampling station in which poison (e.g., often rotenone) was applied in an enclosed basin, such as a tide pool or small pond in a coral reef at low tide to cause all fish to leave their hiding places and come to the surface, where they can be collected.
- **Self-Contained Underwater Breathing Apparatus (SCUBA):** used by individuals for hand collecting of specimens below the sea surface
- **Seabird Observations and Collections**: see Watson et al. (1963)

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