

1980 Bering Sea crab survey data by R/V Wakatake maru

(Second cruise, July-August)

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(Second cruise, July - August)

Koji TAKESHITA and Hitoshi FUJITA

(Far Seas Fish. Res. Lab.)

Survey of distribution and abundance of tanner crab in the Bering Sea was conducted, during the period May to August by the Japanese crab research vessel Wakatake maru.

1. The survey was made in two separate cruises (Fig. 1):

First cruise, May 9 to June 25 (30 survey days for 94 stations)

Second cruise, July 10 to August 24 (29 survey days for 126 stations and 26 comparative tows)

2. The number of crabs caught per 30-minute trawl haul at each station by species, by sex and by size group are shown in Figs. 2-1 to 2-6.

The data for the first cruise are given in Doc. 2308.

3. The carapace width compositions by region (West and East region, see Fig. 1) are shown in Figs. 3-1 to 3-12.

4. Tagging experiments were conducted to estimate sampling efficiency of survey gears (for trawl gear in the first cruise and for pot gear in the second cruise), and to obtain biological data for movement of crabs.

5. Pair trawling experiment was conducted with the U.S. research vessel Ocean Harvester in order to determine sampling efficiency of the gear by the ATA method. The data from the experiments are summarized in Table 1.

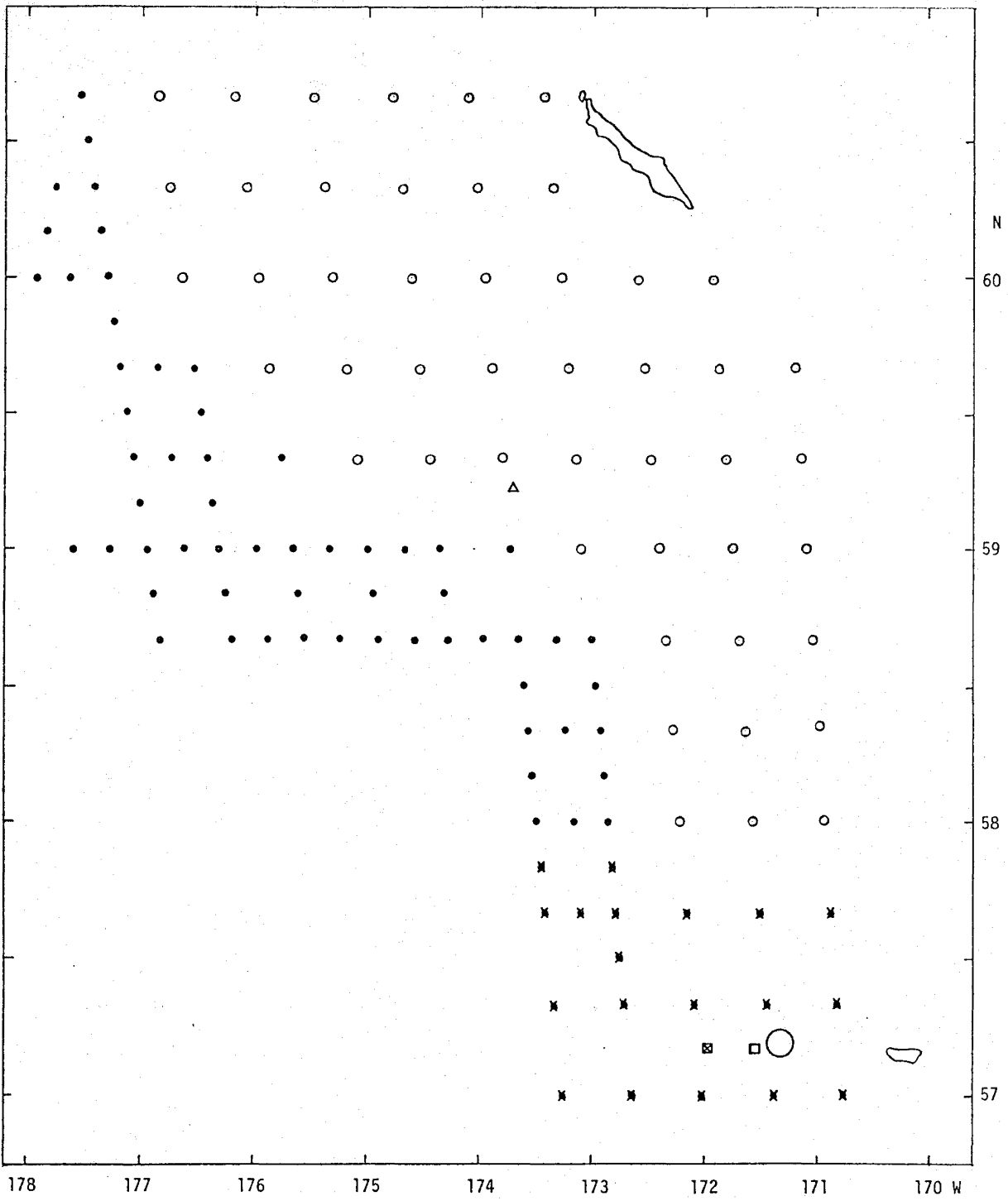


Fig. 1. 1980 survey station pattern for R/V Wakatake maru.

- stations for West region, ○ stations for East region, ✕ stations South of 58°N.
- ⊠ tagging station: 6,000 crabs with short-term tag in May 23.
- tagging station: 3,000 crabs with short-term tag in July 27.
- △ tagging station: 200 crabs with long-term tag in August 9.
- ATA experiment.

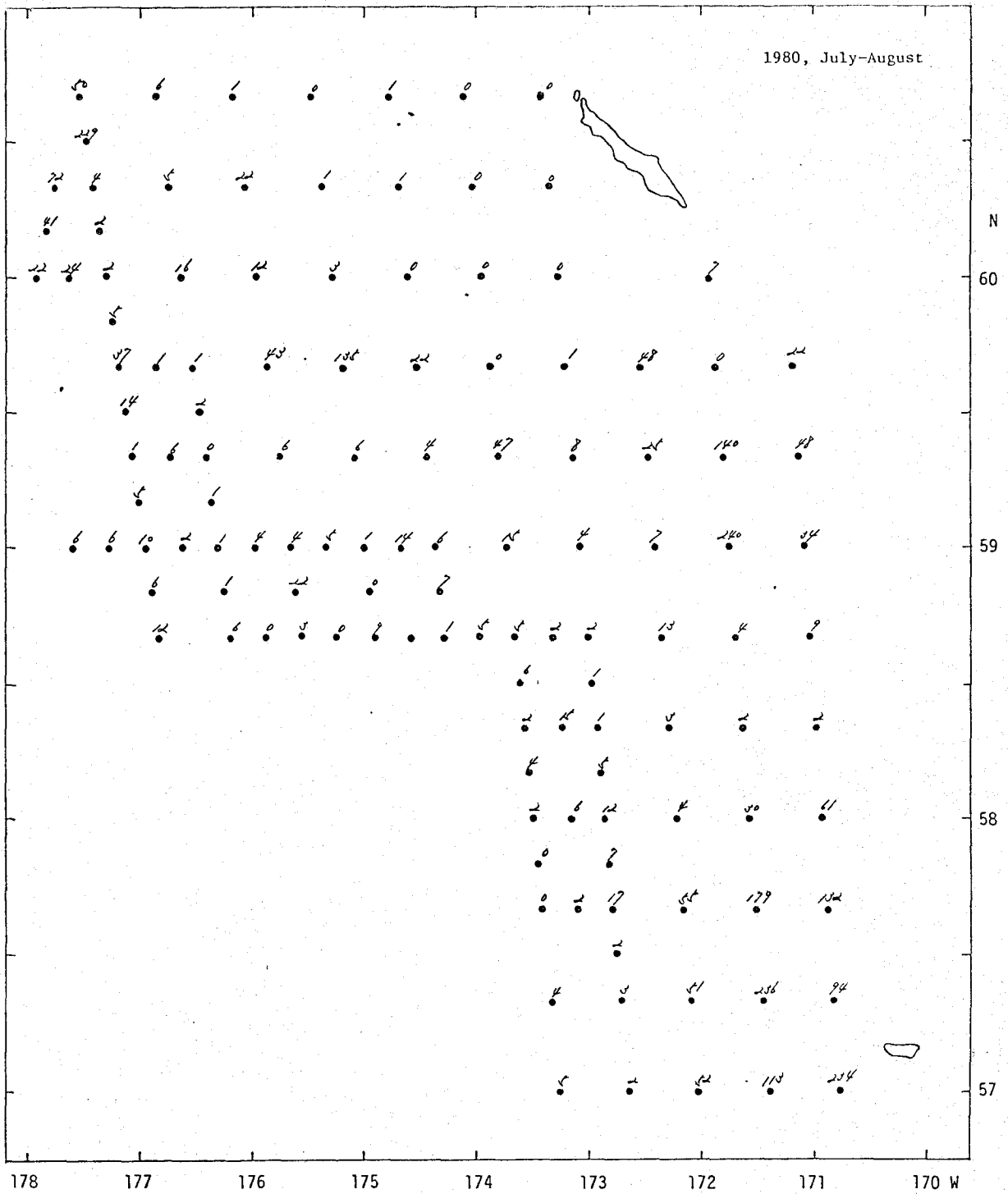


Fig. 2-1. Number of large sized (≥ 100 mm) male *Opilio Tanner* crab caught per tow.

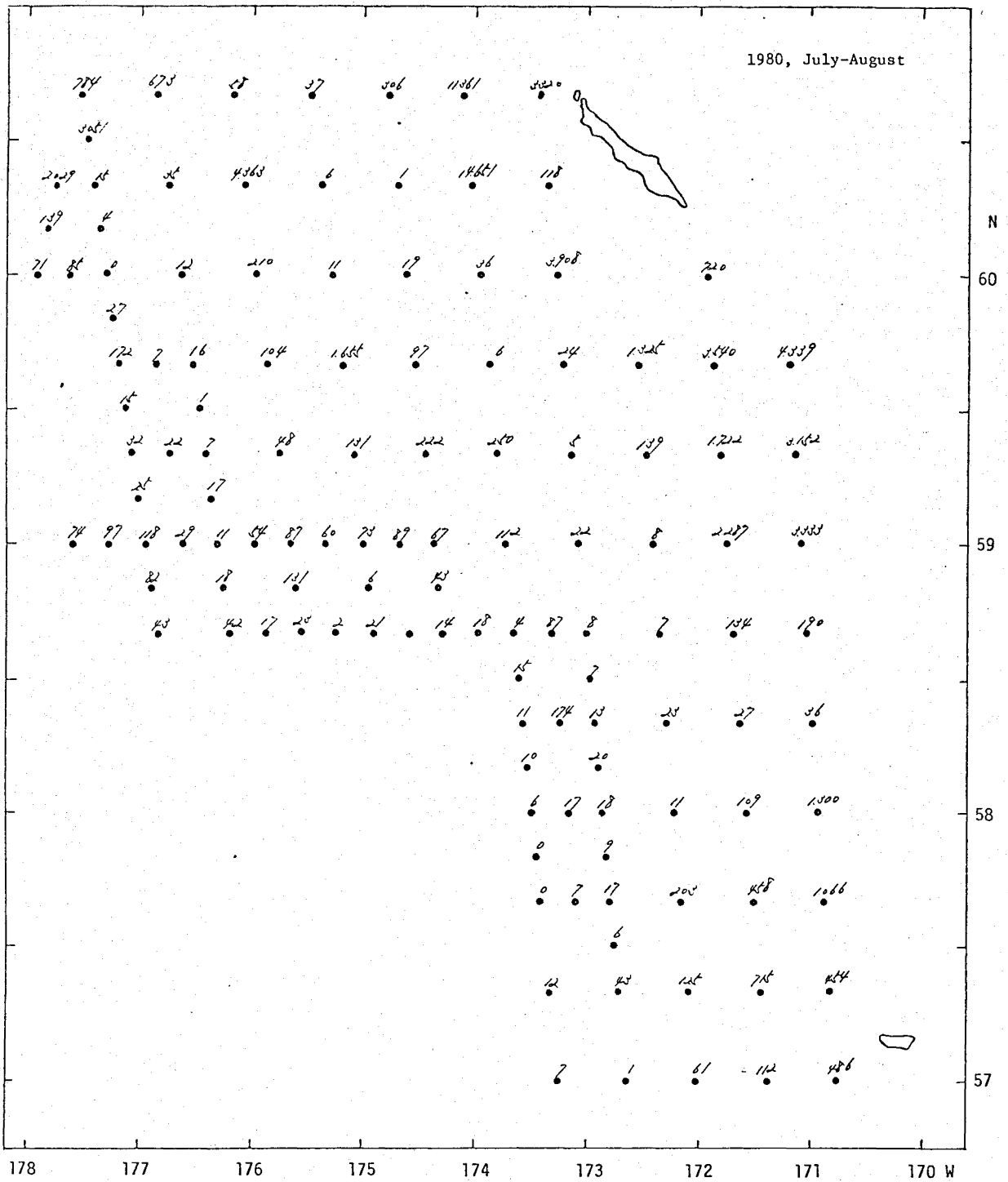


Fig. 2-2. Number of small sized (<99 mm) male *Opilio Tanner* crab caught per tow.

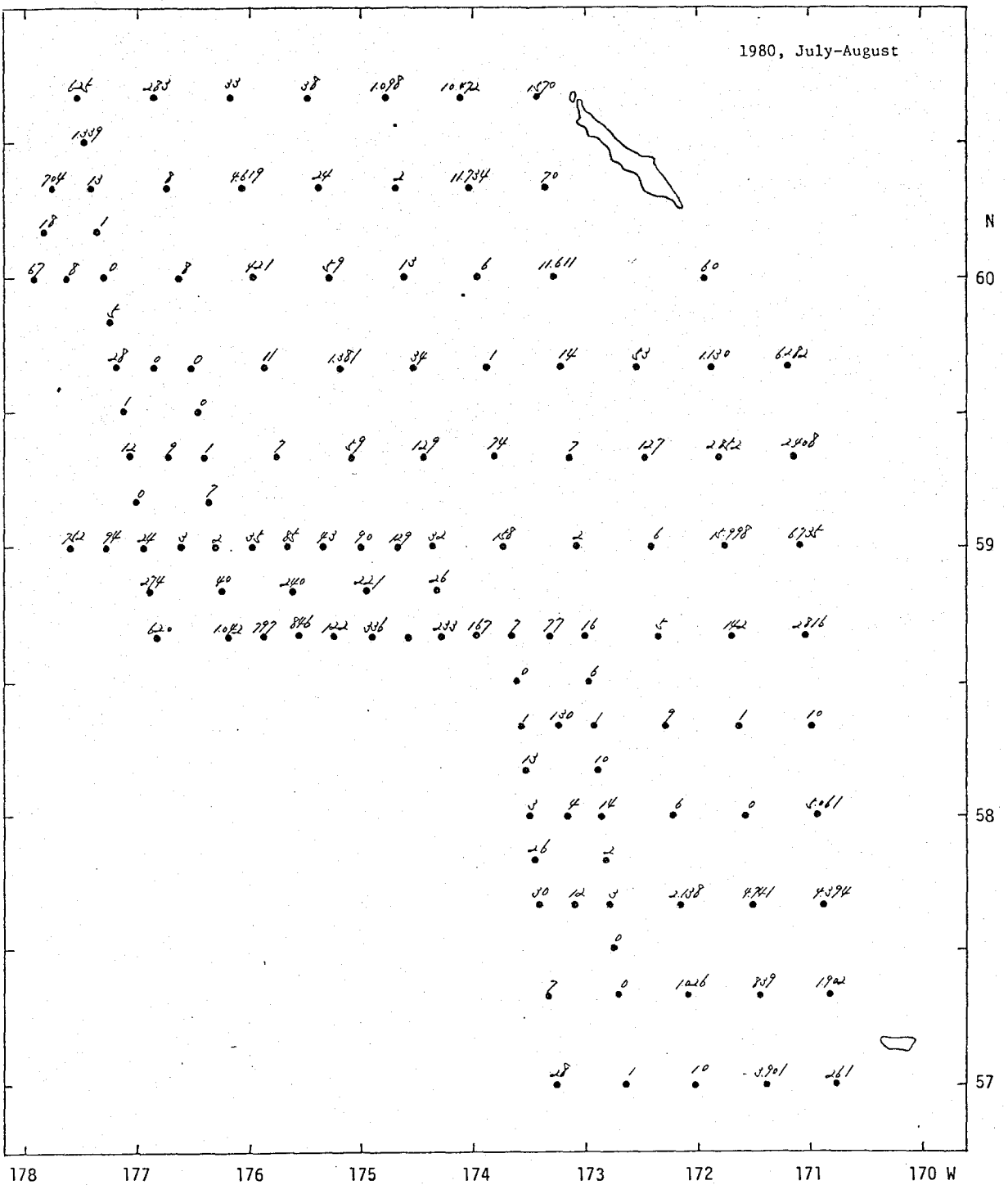


Fig. 2-3. Number of female *Opilio* Tanner crab caught per tow.

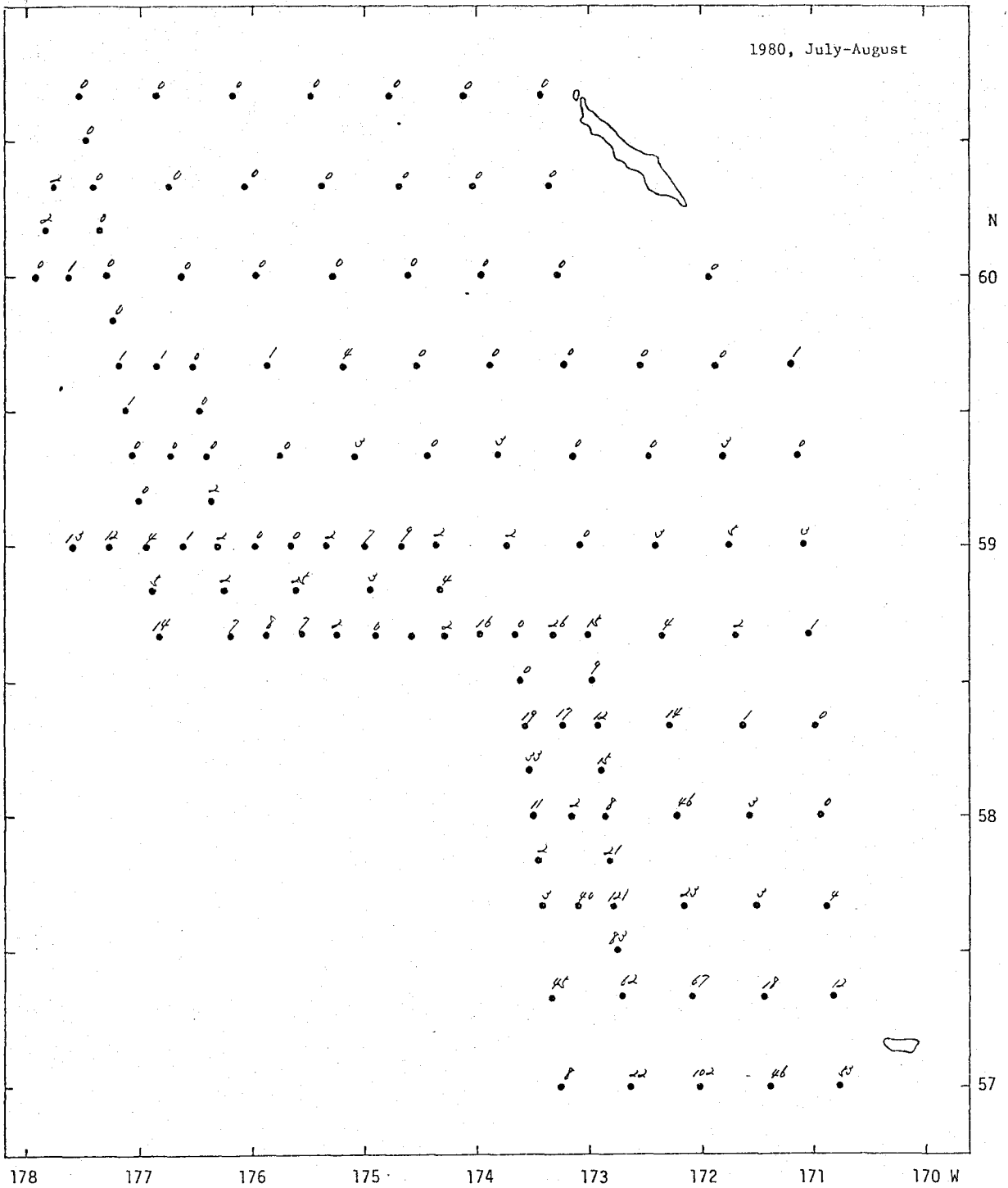


Fig. 2-4. Number of large sized (≥ 100 mm) male Bairdi Tanner crab caught per tow.

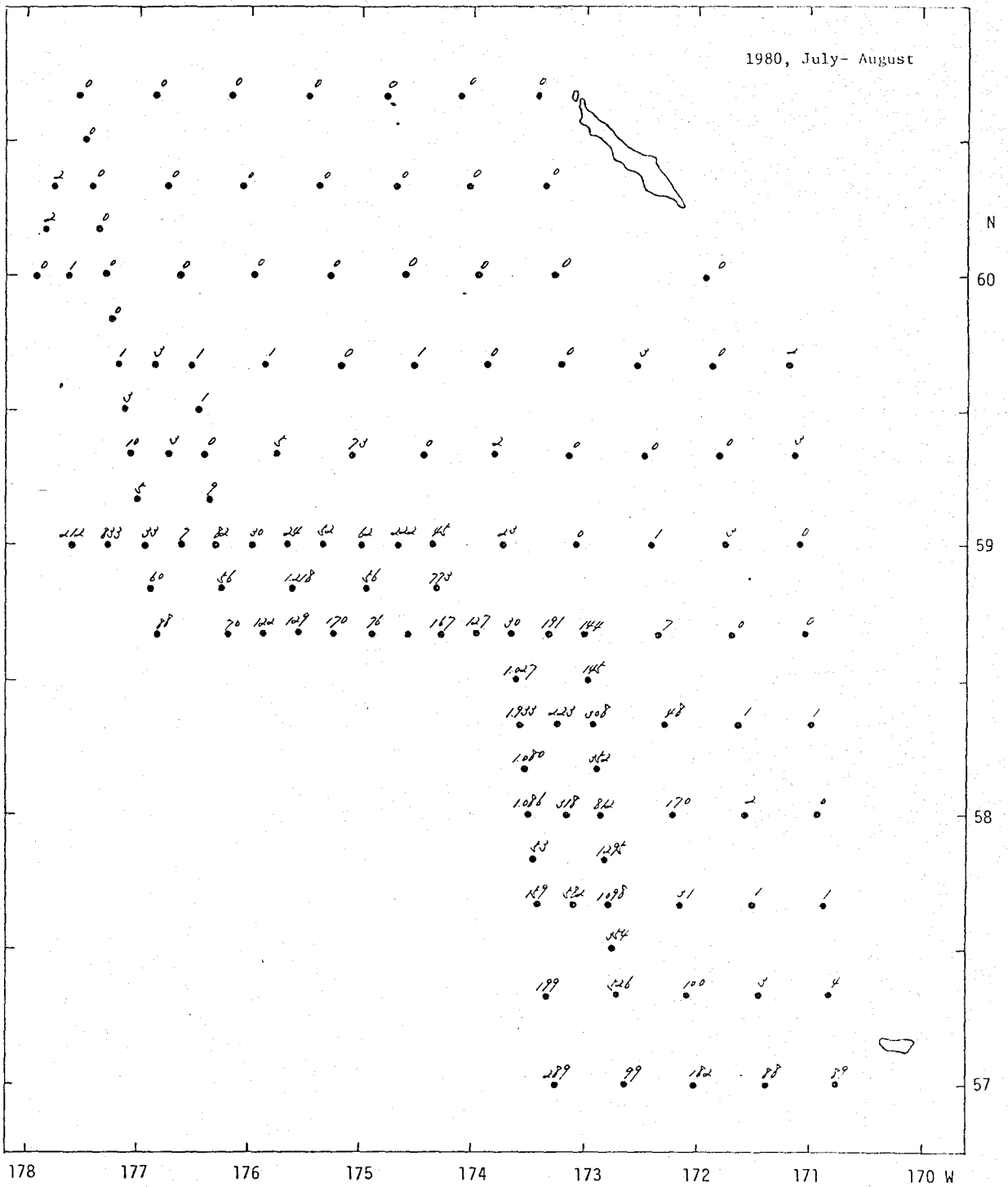


Fig. 2-5. Number of small sized (<99 mm) male Bairdi Tanner crab caught per tow.

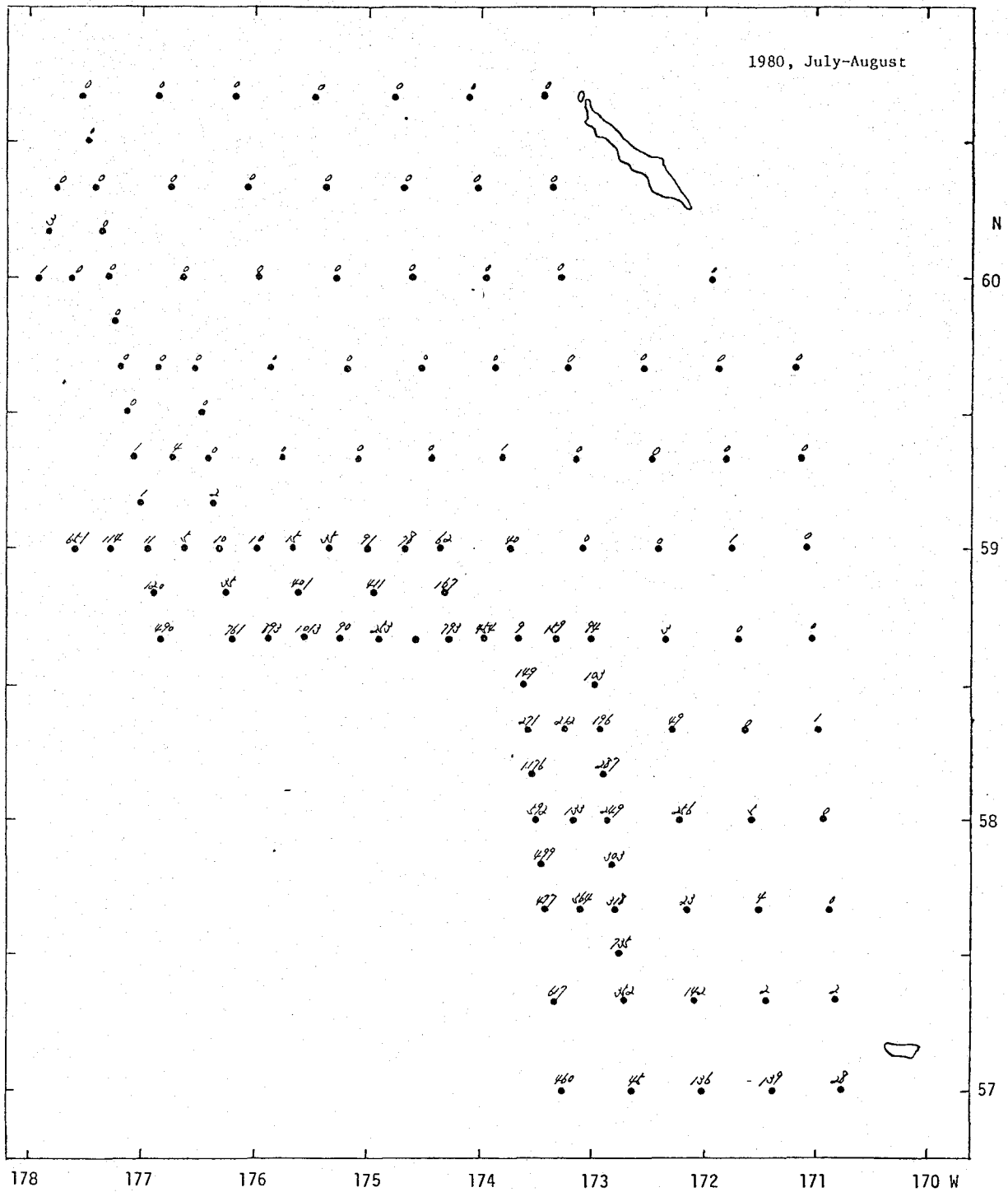


Fig. 2-6. Number of female Bairdi Tanner crab caught per tow.

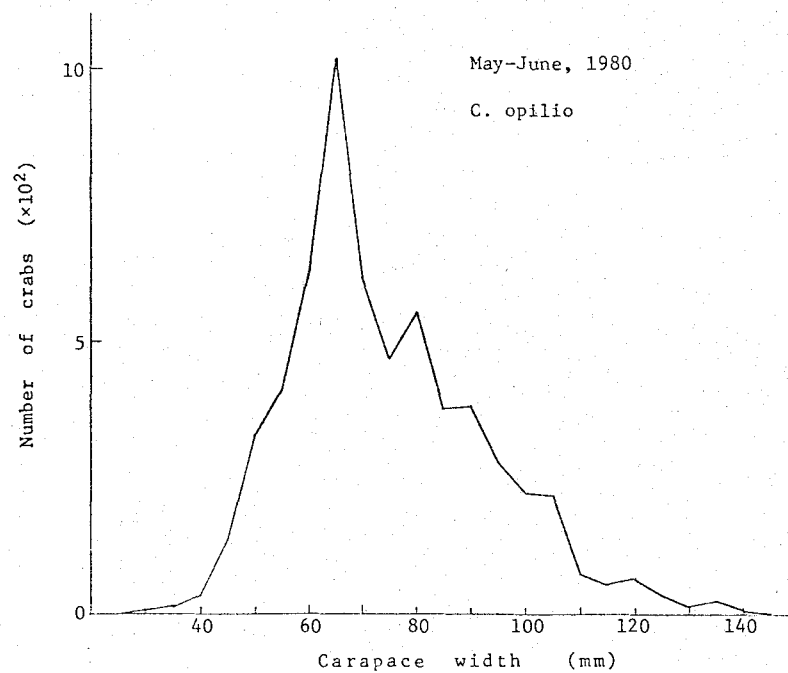
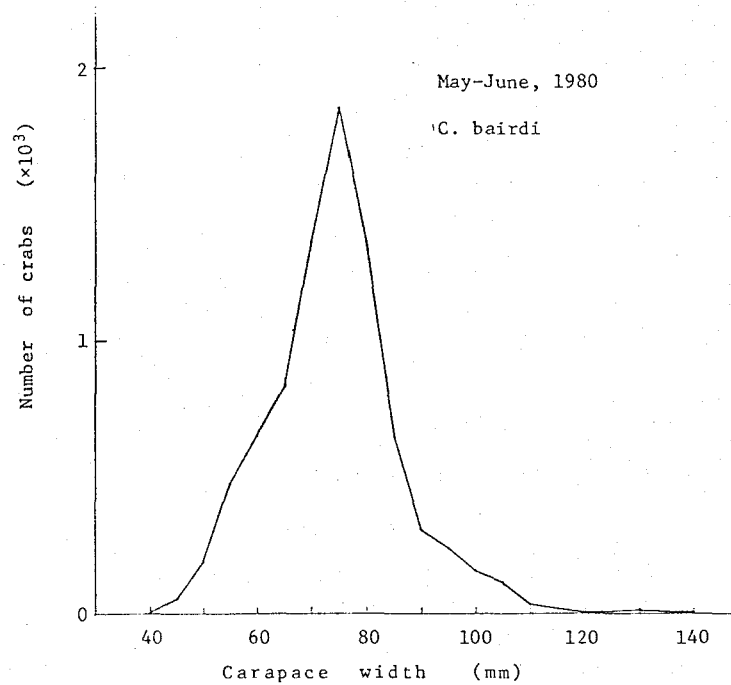


Fig. 3-1. Carapace width composition of male tanner crab in the West region (see Fig. 1) based on the Bering Sea trawl survey.

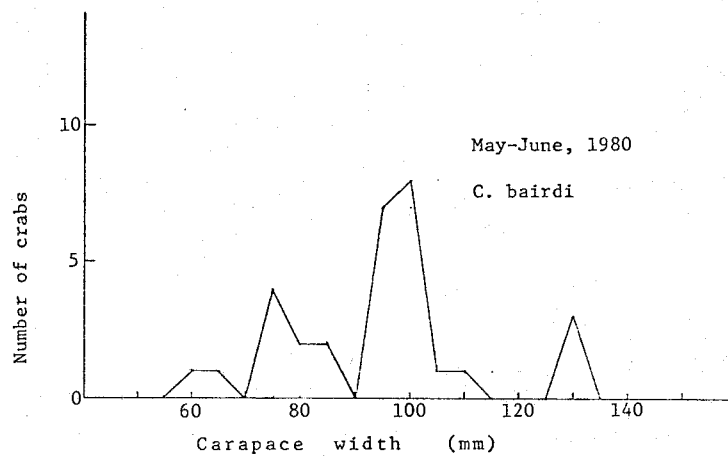
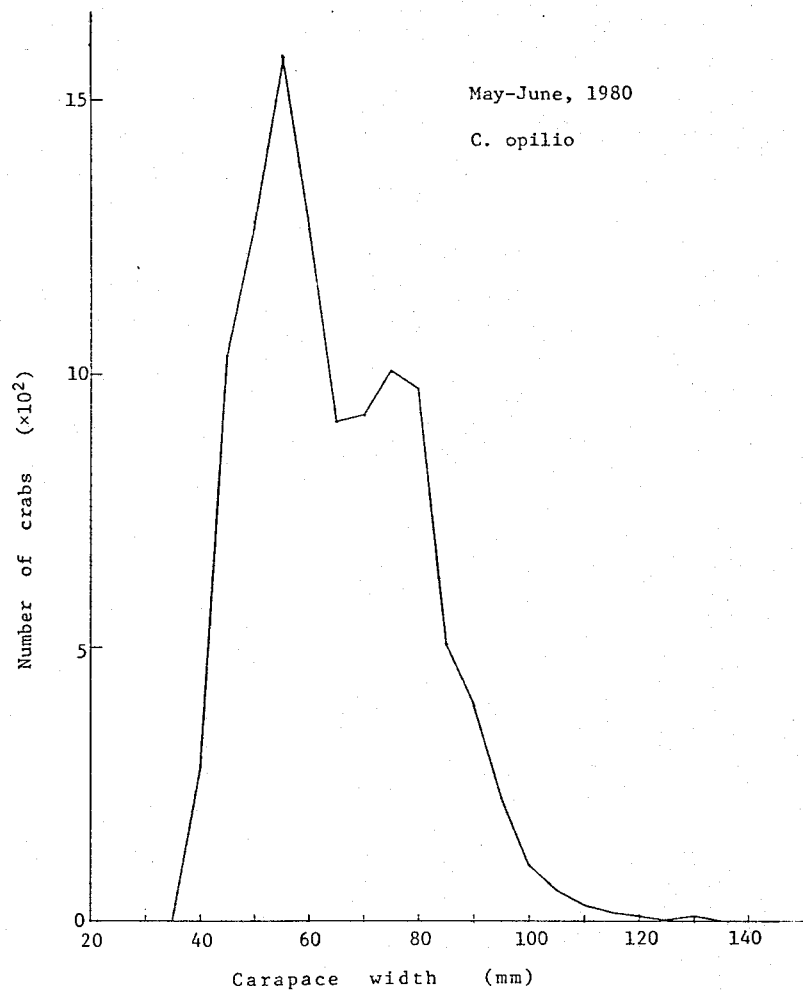


Fig. 3-2. Carapace width composition of male tanner crab in the East region (see Fig. 1) the Bering Sea trawl survey.

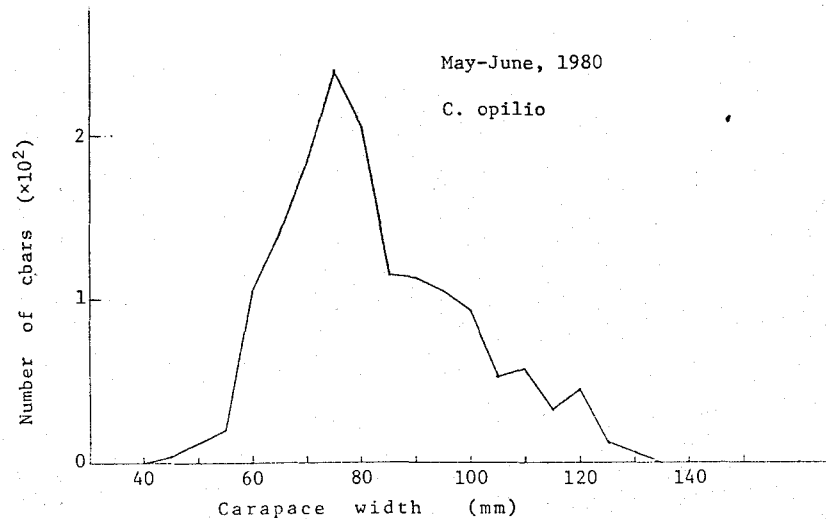
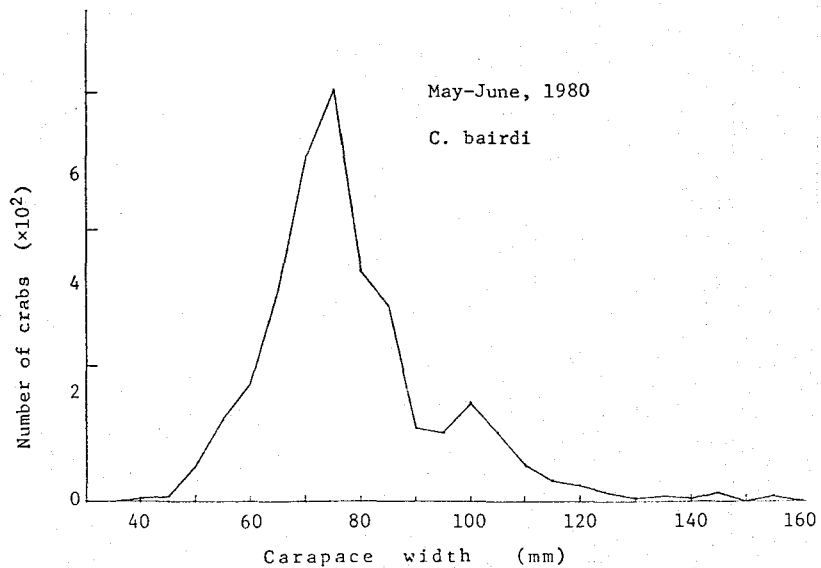


Fig. 3-3. Carapace width composition of male tanner crab in south of 58°N (see Fig. 1) based on the Bering Sea trawl survey.

1980, May-June

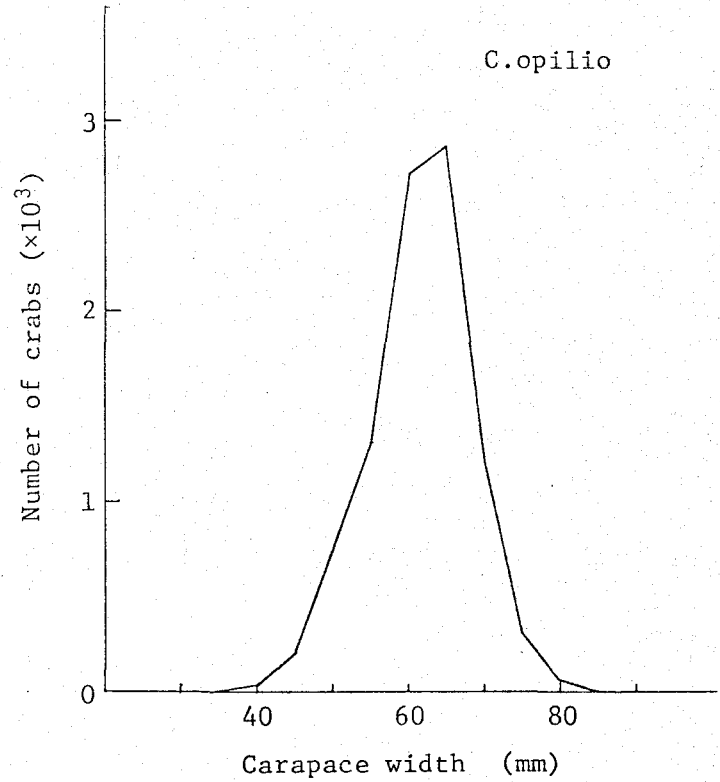
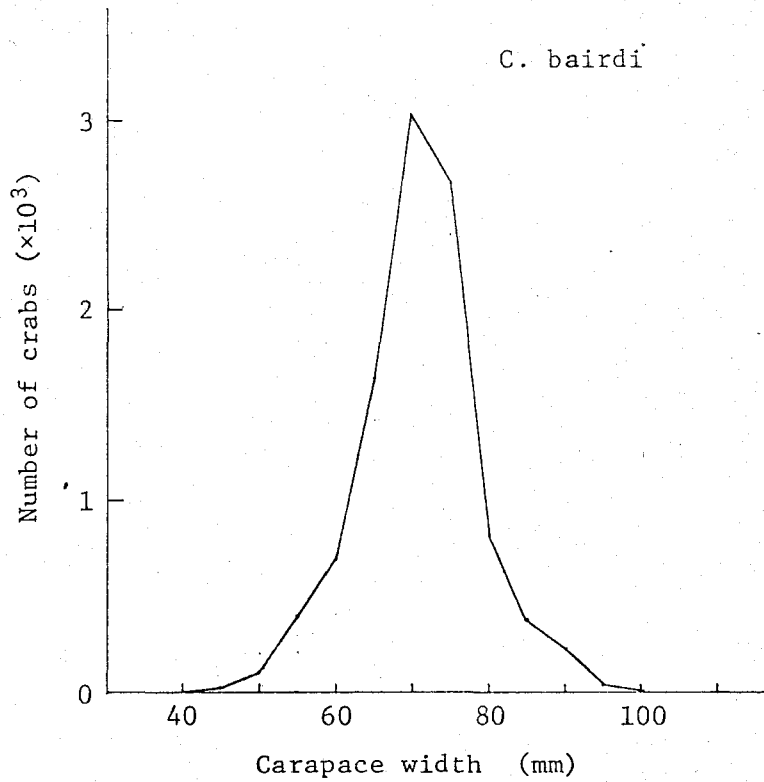


Fig. 3-4. Carapace width composition of female tanner crab in the West region (see Fig. 1) based on the Berion Sea trawl survey.

1980, May-June

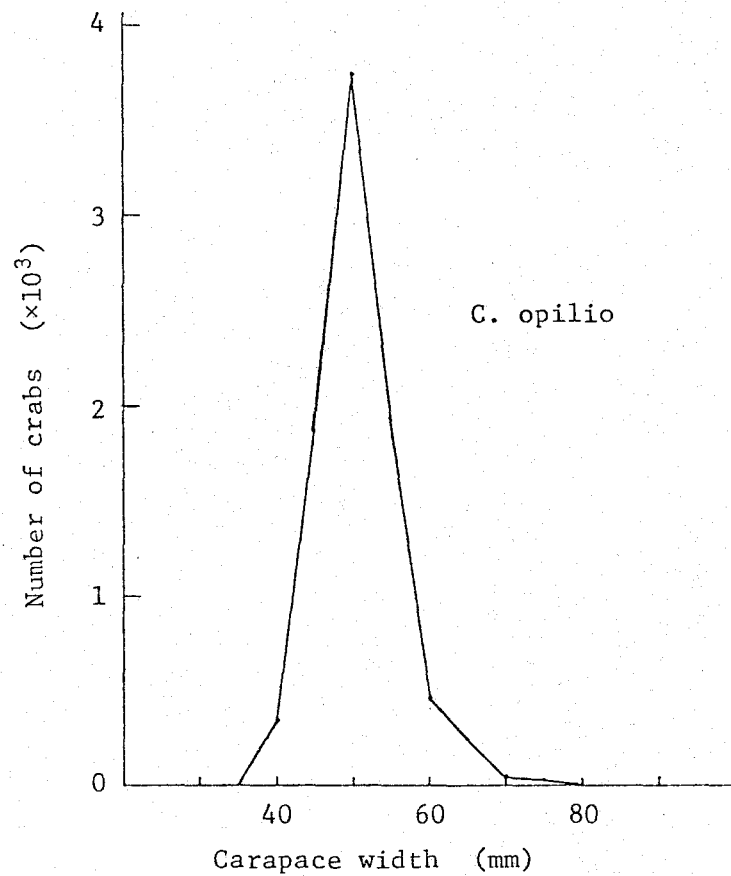
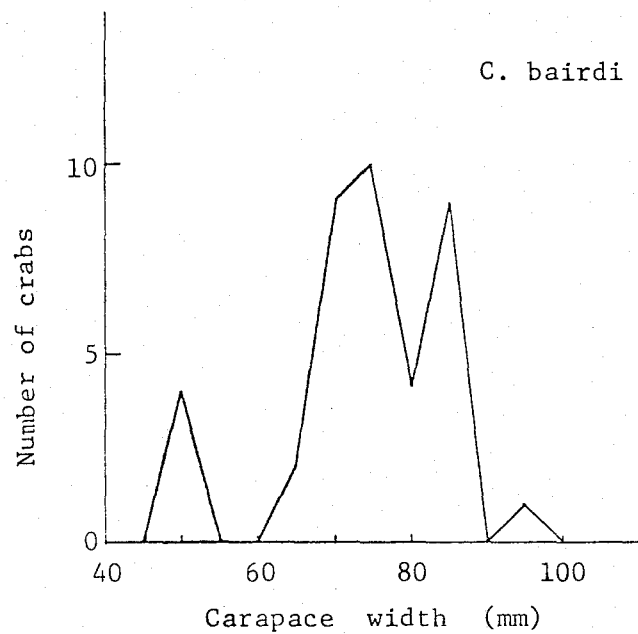


Fig. 3-5. Carapace width composition of female tanner crab in the East region (see Fig. 1) based on the Bering Sea trawl survey.

1980, May-June

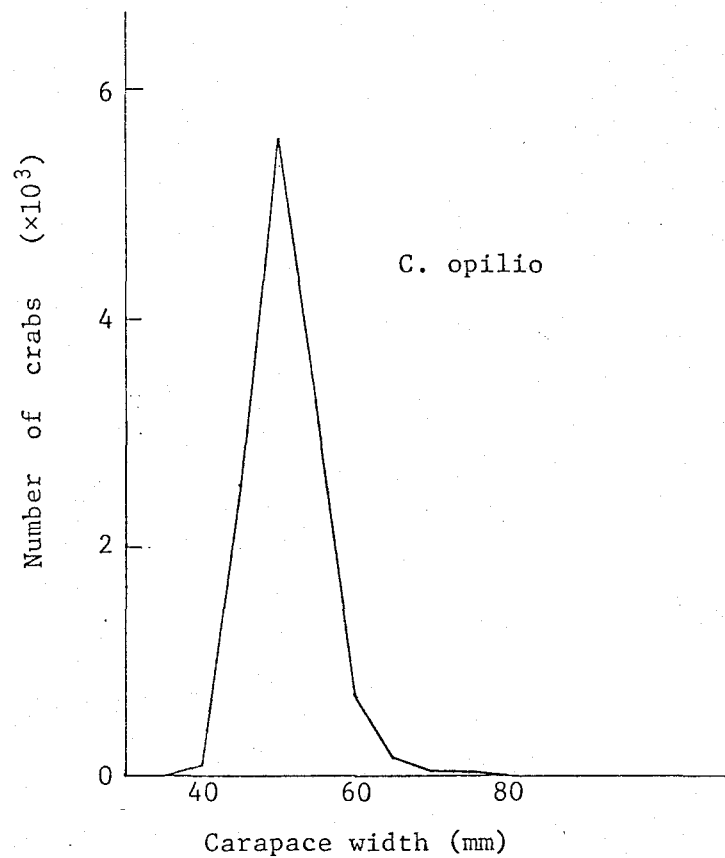
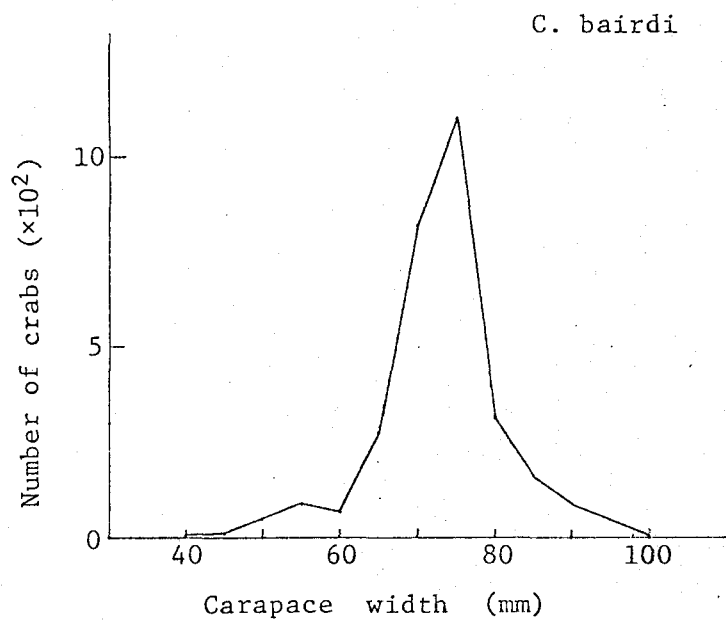


Fig. 3-6. Carapace width composition of female tanner crab in south of 58°N (see Fig. 1) based on the Bering Sea trawl survey.

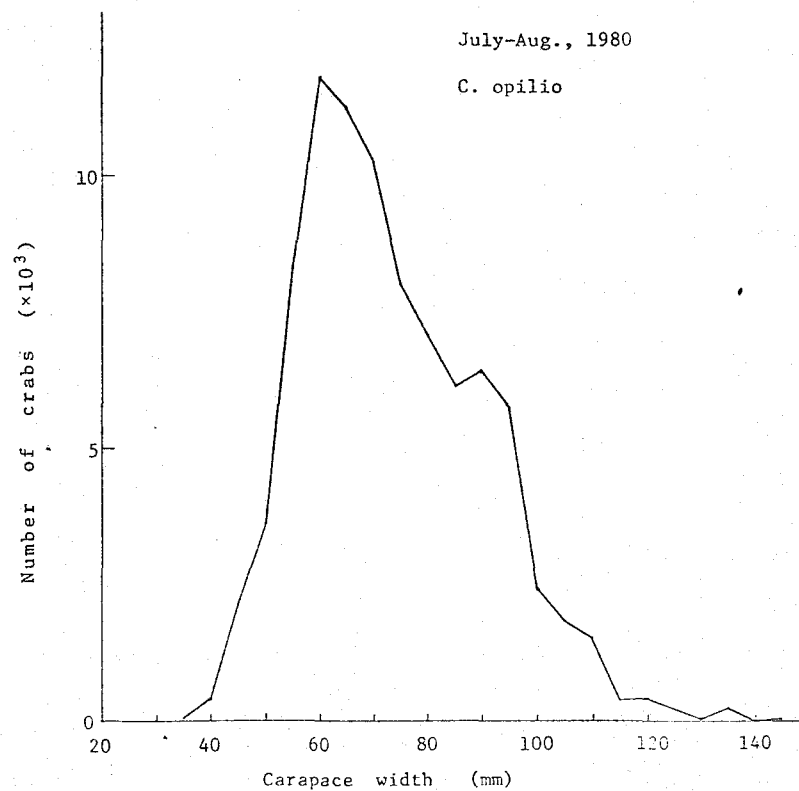
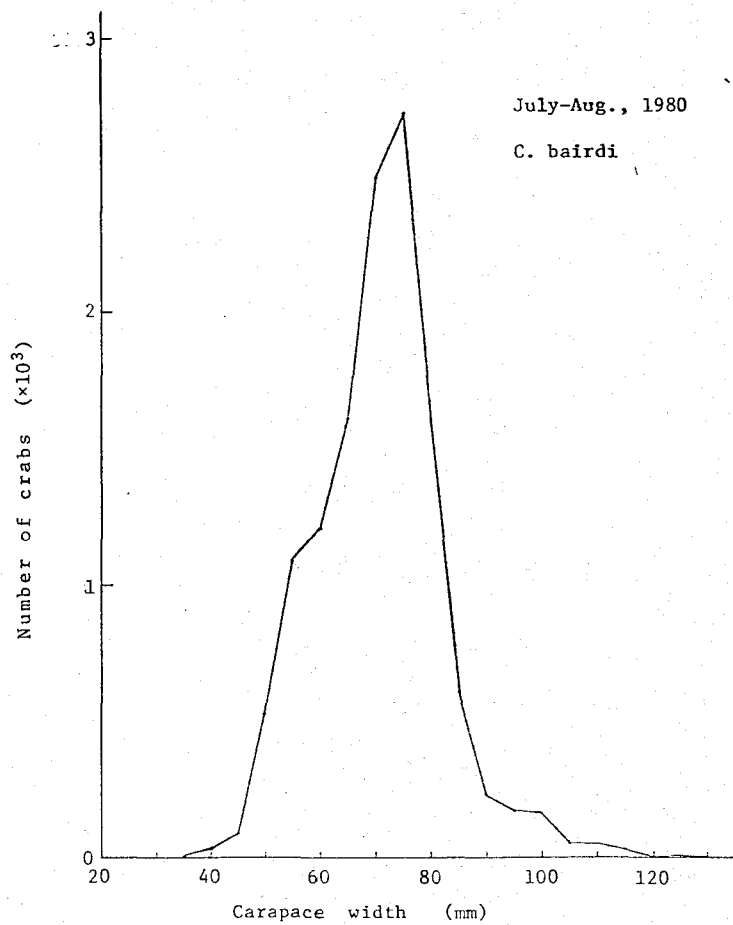


Fig. 3-7. Carapace width composition of male tanner crab in the West region (see Fig. 1) based on the Bering Sea trawl survey.

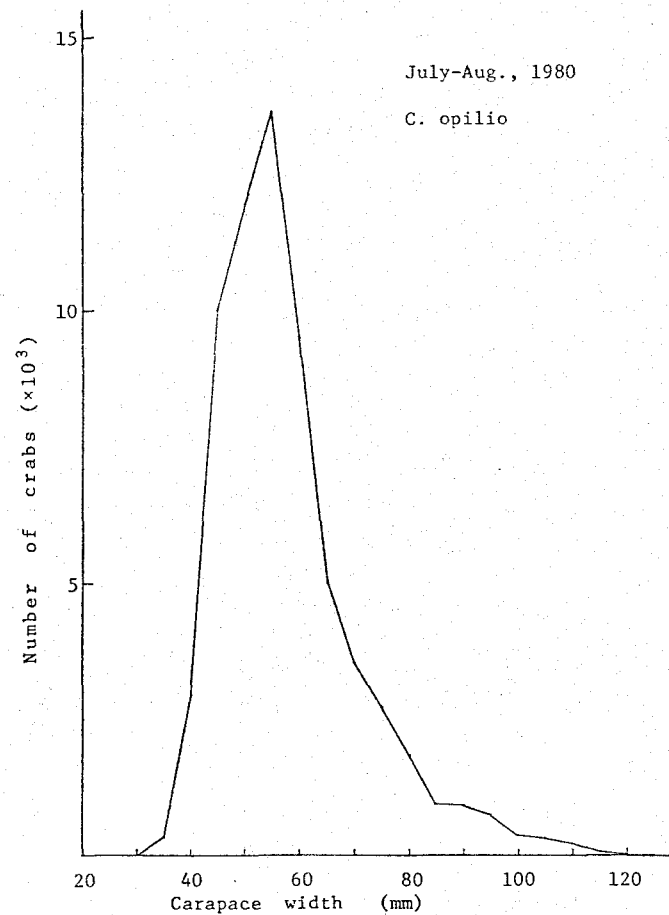
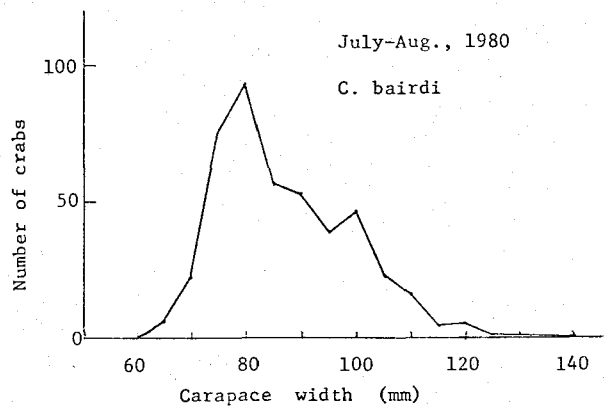


Fig. 3-8. Carapace width composition of male tanner crab in the East region (see Fig. 1) based on the Berin sea trawl survey.

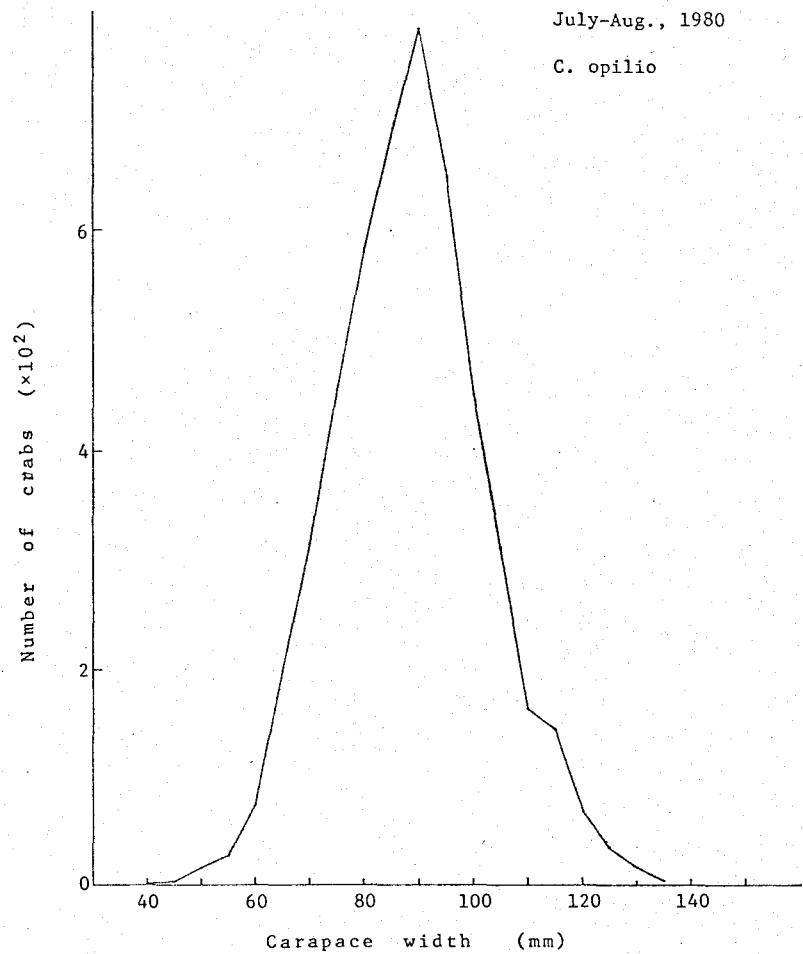
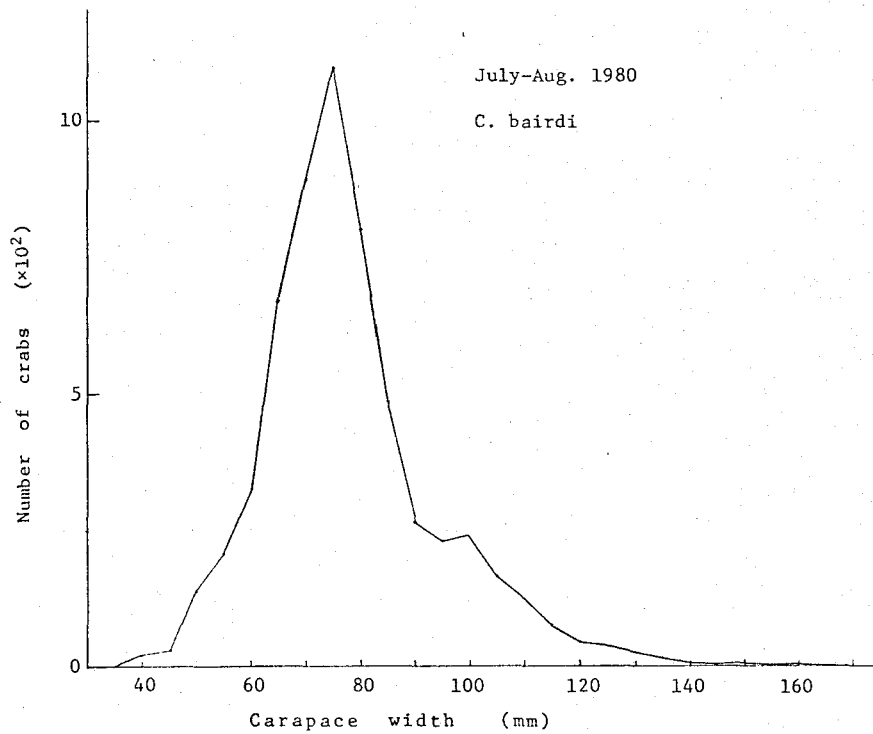


Fig. 3-9. Carapace width composition of male tanner crab in south of 58°N (see Fig. 1) based on the Berin Sea trawl survey.

1980, July-August

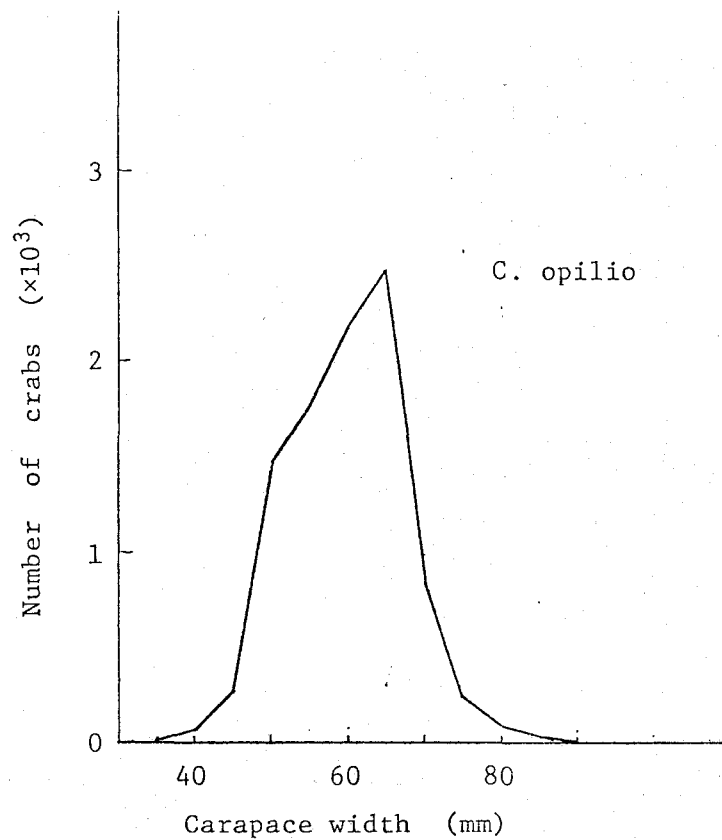
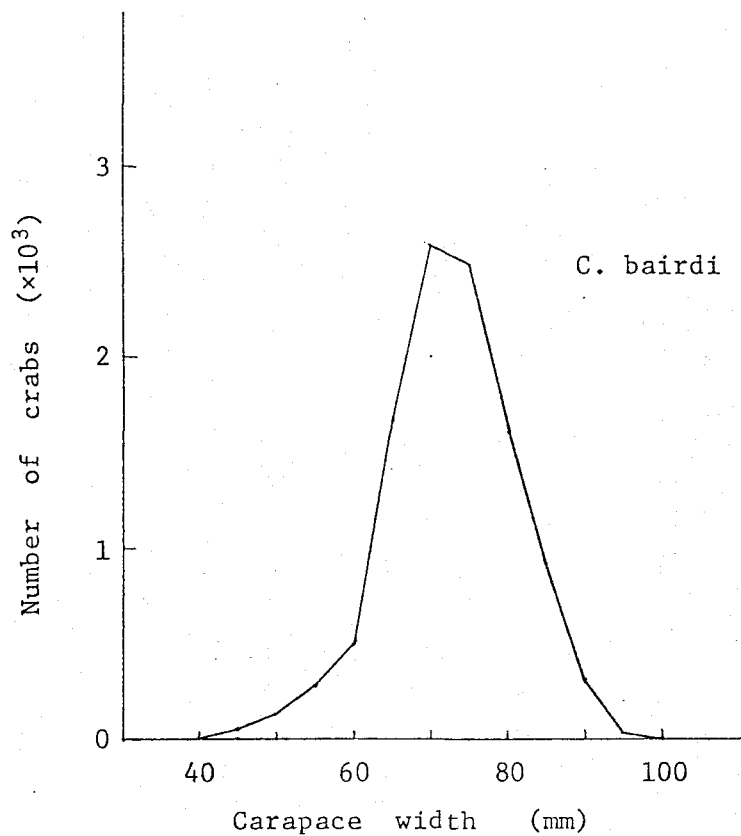


Fig. 3-10. Carapace width composition of female tanner crab in the West region (see Fig. 1) based on the Bering Sea trawl survey.

1980, July-August

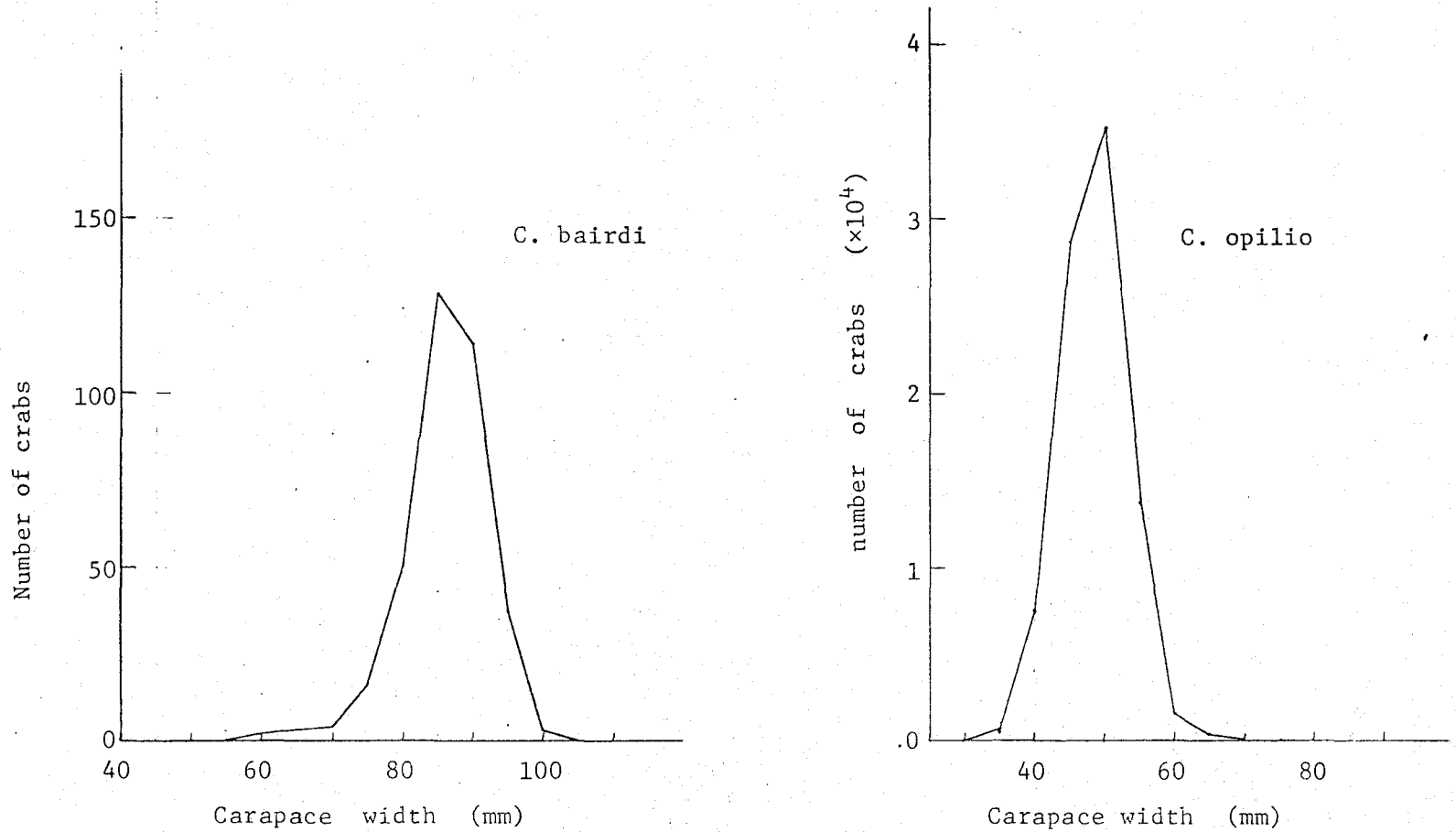


Fig. 3-11. Carapace width composition of female tanner crab in the East region (see Fig. 1) based on the Bering Sea trawl survey.

1980, July-August

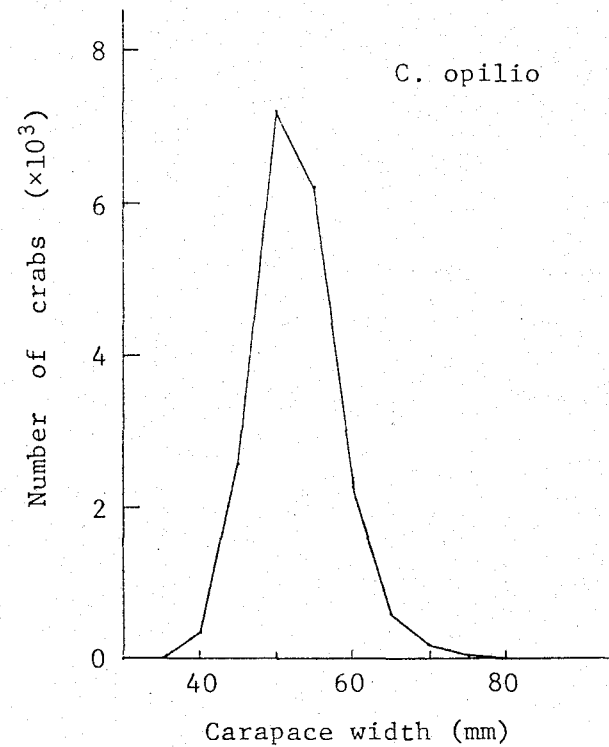
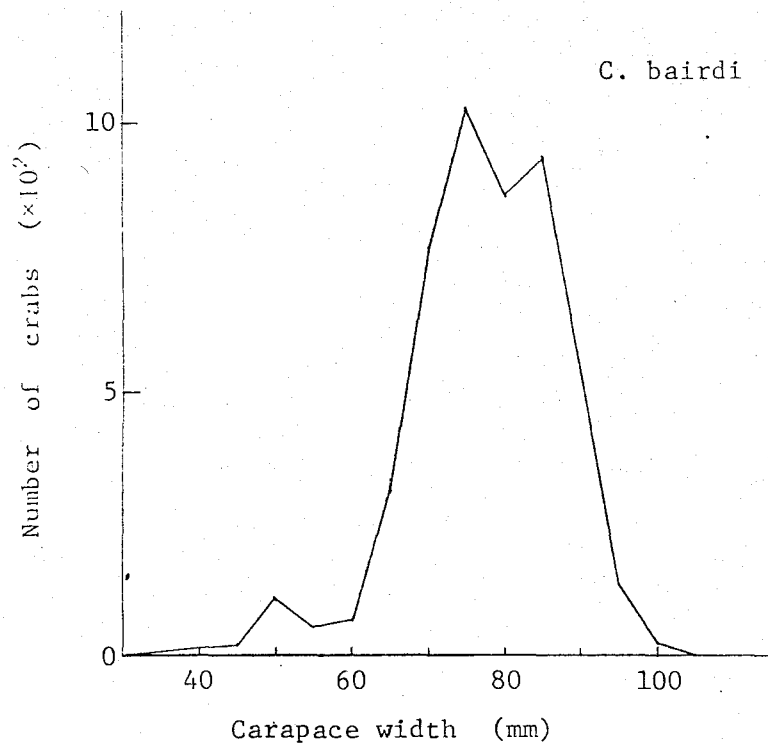


Fig. 3-12. Carapace width composition of female tanner crab in south of 58°N (see Fig. 1) based on the Bering Sea trawl survey.

Table 1. Catch records in ATA operations, 1980 U.S.- Japan crab joint survey.

Tow No.	Type of * operation	Date	Position			Towing distance (miles)	OCEAN HARVESTER						Towing distance (miles)	WAKATAKE MARU					
			Lat.	N	Long.		W	C. bairdi			C. opilio			C. bairdi			C. opilio		
						LM	SM	F	LM	SM	F		LM	SM	F	LM	SM	F	
1	S	7/20	57-10.5		171-24.1		35	25	0	86	15	1060	1.5	63	49	12	259	49	2326
2	O		57-16.0		171-24.5	1.6	14	3	21	81	35	4693	1.6	22	0	47	557	293	13979
3	W		57-10.3		171-27.2	1.3	97	42	24	**	**	1015	1.5	48	13	13	512	7	981
4	O		57-10.0		171-30.7	1.3	44	51	21	105	12	1165	1.4	95	116	71	314	27	3378
5	W		57-11.2		171-38.2	1.5	77	43	46	53	23	2127	1.5	93	50	83	102	43	3490
6	S	7/21	57-11.9		171-54.1	1.4	78	40	59	32	8	888	1.6	123	73	181	111	60	1048
7	O		57-10.1		171-29.9	1.5	63	74	40	129	6	804	1.5	85	150	102	467	30	3672
8	W		57-10.0		171-26.9	1.6	53	23	3	186	6	96	1.5	88	5	7	1398	43	58
9	O		57-11.0		171-26.5	1.3	28	16	9	117	6	401	1.3	65	30	25	707	62	1888
10	W		57-10.4		171-28.5	1.4	54	27	15	264	15	2314	1.4	84	48	46	485	26	3771
11	S	7/22	57-10.5		171-27.3	1.4	71	14	21	198	12	1419	1.5	64	37	37	663	35	3666
12	O		57-10.2		171-28.7	1.6	66	38	29	194	14	2252	1.5	100	86	61	639	104	4006
13	W		57-10.1		171-27.0	1.4	50	30	13	310	16	1460	1.5	124	35	27	1127	47	1873
14	O		57- 9.5		171-26.6	1.4	49	3	6	131	6	352	1.3	108	15	10	765	15	123
15	W		57-11.2		171-30.1	1.3	29	31	14	59	13	3190	1.4	38	43	25	138	36	4187
16	S	7/23	57- 9.6		171-26.9	1.4	39	30	24	69	11	2677	1.4	65	42	41	333	29	3852
17	O		57- 9.2		171-59.0	1.3	48	35	27	262	36	2778	1.4	16	17	18	143	21	2453
18	W		57-10.0		171-26.9	1.4	89	49	17	472	36	2675	1.5	5	13	5	96	8	762
19	O		57-10.1		171-26.1	1.3	42	25	15	316	26	1174	1.3	72	42	34	640	41	3069
20	W		57-10.2		171-28.9	1.2	57	35	10	448	16	663	1.3	116	29	21	1151	36	306
21	W		57-10.1		171-29.6	1.4	78	37	26	484	36	1132	1.4	109	36	31	1126	11	1391
22	S	7/24	57-10.0		171-28.1	1.5	64	11	9	357	12	303	1.5	122	33	31	1024	43	1329
23	O		57- 9.9		171-30.0	1.4	34	9	12	124	1	516	1.4	50	11	35	347	10	1744
24	W		57-11.4		171-28.1	1.4	47	47	22	129	13	2804	1.5	28	19	16	115	13	3309
25	O		57-10.5		171-28.3	1.2	43	14	9	336	9	378	1.3	59	33	24	955	68	655
26	W		57-10.9		171-26.2	1.3	82	14	7	496	20	320	1.3	121	18	14	1361	87	221

* S: Side by side , O: OCEAN HARVESTER leads, W: WAKATAKE MARU leads.

** Data unavailable.

LM: Male \geq 80mm in carapace width, SM: Male <80mm in carapace width, F: Female.

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