DOGFISH COLLECTION AT MOUNT DESERT ISLAND BIOLOGICAL LABORATORY DURING THE SUMMER SEASONS OF 1973 THROUGH 1979

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The data summarized in Tables I and II were obtained from the order forms carried by the collecting crews and used to distribute the catch. The number of fish caught could not be divided by sex because of insufficient information, although, during the 1979 season practically all the fish caught were females because of the method of fishing. The areas fished in many instances are unavailable and could not be summarized. (But see Woodhead - Bull. MDIBL, 16, p. 108 for typical locations.) Since 1973 there have been four different collecting crews. The method of fishing from 1973 through 1978 was by trawl lines. (In July 1979 an unusual migration of large numbers of squid into Frenchman Bay disrupted trawl fishing and gill nets were substituted.) Although the number of fish ordered, a possible measure of fish need, was available in all forms it was felt that it did not represent adequately the number of fish needed because of the common practice of investigators of inflating their orders when they are not fulfilled. In the tables all decimals have been omitted. Averages represent arithmetical means plus or minus standard deviation.

TABLE I

Dogfish Collection Data at MDIBL for the Summer Seasons 1973-1979

Year	Number of Collecting Trips	Date of First Trip	Date of Last Trip	Dogfish Collected	Dogfish Delivered to Common Pool	Dogfish/Trip Collected	Dogfish/Trip Delivered to Investigator Live Cars
1973	30	6/27	8/29	1608	452*	53 ± 32	39 ± 19
1974	38	6/19	9/16	1619	148*	43 ± 30	39 ± 30
1975	28	6/26	8/28	1353	366	48 ± 26	35 ± 20
1976	47	6/24	8/28	1258**	-	-	27 ± 18
1977	28	6/21	9/9	988	466	35 ± 22	17 ± 7
1978	23	6/20	9/8	726	155	32 ± 21	22 ± 12
1979	34	6/14	9/11	884	62	26 ± 20	24 ± 16

* Minimum number. On many occasions the records show only a plus (+) sign for dogfish delivered to the common pool. On other occasions the number delivered to the common pool is not stated.

** In the year 1976 the number of dogfish delivered to the common pool was not stated so the number stated here only depicts those dogfish delivered to individual investigator live cars.

TABLE II

Number of Dogfish Collected per Fishing Trip for each Week of the Summer Season

Week	1973	1974	1975	1976+	1977	1978	1979	Average++ 1973-1979	Average 1973-1975	Average 1977-1979
1*	8	13	13	13	23	16	8	14 ± 6	11 ± 3	16 ± 7
2	18	31	9	17	32	7	14	18 ± 11	19 ± 11	17 ± 13
3	42	41	86	24	21	25	28	41 ± 24	56 ± 26	25 ± 4
4	69	48	31	29	48	25	39	43 ± 16	49 ± 19	37 ± 12
5	84	52	62	39	52	41	31	49 ± 24	66 ± 16	32 ± 19
6	50	55	53	30	33	26	10	38 ± 18	53 ± 2	23 ± 12
7	98	87	72	27	61	53	46	70 ± 20	86 ± 13	53 ± 8
8	65	62	54	38	37	75	27	53 ± 18	60 ± 6	46 ± 25
9	61	50	61	24	36	32	43	47 ± 12	57 ± 6	37 ± 5
10	53	29	35	6	41	25	32	36 ± 10	39 ± 13	32 ± 8
11**		8			6	40	12			

*Week number 1 includes all collecting trips during the month of June.

**Week number 11 includes all the collecting trips during the month of September.

+The number shown for the year 1976 depict only those fish delivered to individual investigator live cars. The total number collected was not available.

++Does not include the 1976 numbers.

CLEAVAGE OF EGGS IN WHICH THE POLAR REGIONS ARE SIMULTANEOUSLY MANIPULATED

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Although a pair of asters located within some critical distance of each other and of the surface suffice for establishment of an active division furrow, the surface region upon which their influence is brought to bear has not been rigorously demonstrated. The polar and the equatorial surfaces are likely alternatives, but a long sequence of published investigations has failed to demonstrate any necessary geometrical relationship between the mitotic apparatus (MA) and the poles, whereas interference with the normal geometrical relation between the MA and the equator can affect division. To further explore this problem, a technique for simultaneously manipulating the poles of pre-division cells was devised. When the 150 μm diameter egg is slipped into a glass ring about 100 μm i.d. and about 100 μm long, the egg is distorted into a cylinder, the rounded ends of which protrude from the ring. The cylindrical egg form positions the MA so that the cell divides across its shortest axis, and the glass ring immobilizes the egg during manipulation. Thus when the egg and ring are properly arranged on the operation chamber floor, both poles are accessible and fixed. Neither agitation of the polar regions nor deforming them with conical tools so that the pole is pushed into the astral centers interferes with establishment or operation of the division. Division mechanisms are also unaffected by aspiration of cytoplasm from between the asters and the poles or aspiration of the polar portions of the asters. Techniques for injecting large oil drops between the polar surfaces and the asters are being developed. Thus far, furrow establishment and function appear undisturbed by drastic manipulations in the polar regions. This investigation was supported by National Science Foundation Grant PCM 74-18380A02