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The Spanish Shrimp Fishery on Flemish Cap (NAFO Division 3M) in 2001

by

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**Abstract**

This paper shows data about catch, effort, catch per unit effort (CPUE) and size distributions of shrimp (*Pandalus borealis*) for Spanish commercial catches on Flemish Cap (NAFO Division 3M) in 2001.

**Material and Methods**

The information concerning to the Spanish shrimp fishery was taken from data collected by UE observers on boarding in each one of the Spanish vessels.

A Spanish scientific observer remained in October on board during the fishing period directed to shrimp, providing information about fishing activity and carrying out biological sampling (length distributions).

**Results**

In the year 2001, the number of Spanish vessels in NAFO area targeting for shrimp was composed around 10 freezer trawlers that worked from March to December on Flemish Cap.

In all vessels the gear used was a simple trawl with bar spacing sorting grates. The hauls were carried out in depths between 250 and 500 meters. The 89% of the effort (fishing hours) was carried out between 300 and 450 m (Fig. 1).

The annual catch according to UE observers was 1 095 tons. The table 1 shows the catches and yields of shrimp and discards of the main caught species by month, together with the distribution of effort (number of vessels, and number of days and hours of activity).

The annual CPUE was around 300 kg/h. April and May were the months with higher yields. The high and uncommon yields estimated in April (654 kg/h) were due to the small number of hauls carried out at the end on that month and the high catches obtained.

The Table 2 and Fig. 2 show the length distribution of shrimp as percentage in the catches carried out in October. The males showed a clear bimodal distribution with two peaks at 17 and 22 mm. The size distribution by females shows a more complicated pattern with modes at 22, 24 and 26 mm. According to the results presented last year (Díaz, 2001), these modal lengths correspond roughly with the ages 3 and 4 for males and 4, 5 and 6 for females.

**References**

Díaz, P. 2001. Northern Shrimp (*Pandalus borealis*) on Flemish Cap in July 2001. *NAFO SCR Doc. 01/172* 11 pp.

Table 1. Estimated catches (kg), effort and CPUE (kg/h) from UE observers by month of the Spanish trawl fleet directed to shrimp fishery on Flemish Cap (NAFO Div. 3M) in 2001.

SPECIES	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
SHRIMP			24881	33627	175964	247754	41449	95832	46159	237167	153448	38510	1094791
REDFISH					78	1202	317			2903	6027	705	11232
AMERICAN PLAICE										1068			1068
WHITE HAKE										357	345	50	752
EELPOUTS					10	150				565			725
SILVER HAKE						390							390
SKATES						21					185	25	231
SANDEELS										227			227
ROUGHHEAD GRENADIER											217	5	222
Number of vessels			1	1	5	6	3	2	1	3	3	2	10
Fishing days			5	3	22	41	10	25	8	37	39	7	182
Fishing hours			73	51	435	768	181	460	148	734	731	140	3722
CPUE Shrimp (kg/h)			340	654	405	323	229	208	312	323	210	275	294

Table 2. Length distribution of Shrimp as percentage from sampled Spanish catches in October on Flemish Cap (NAFO Div. 3M).

<b>Length Class (mm)</b>	<b>Males</b>	<b>Females</b>	<b>Total</b>
13,5	0,02		0,01
14			
14,5	0,02	0,00	0,01
15	0,10	0,13	0,11
15,5	0,39	0,29	0,36
16	1,42	0,60	1,19
16,5	1,20	0,25	0,94
17	11,69	0,65	8,62
17,5	2,54	1,22	2,17
18	3,25	0,78	2,56
18,5	1,53	0,70	1,30
19	2,85	0,84	2,29
19,5	2,76	1,34	2,37
20	4,81	1,45	3,87
20,5	3,38	1,34	2,82
21	11,88	1,68	9,05
21,5	10,59	1,41	8,04
22	21,12	4,68	16,56
22,5	10,62	3,61	8,68
23	10,65	9,12	10,23
23,5	3,15	11,98	5,60
24	3,75	14,47	6,73
24,5	0,60	10,87	3,45
25	0,34	14,05	4,15
25,5	0,00	6,30	1,75
26	0,07	7,28	2,07
26,5	0,00	2,57	0,71
27	0,00	1,32	0,37
27,5	0,00	0,56	0,16
28	0,00	0,22	0,06
28,5	0,00	0,19	0,05
Sampled Catch (kg)	21925		
Sampled Hauls	16		
Indiv. measured	3479		

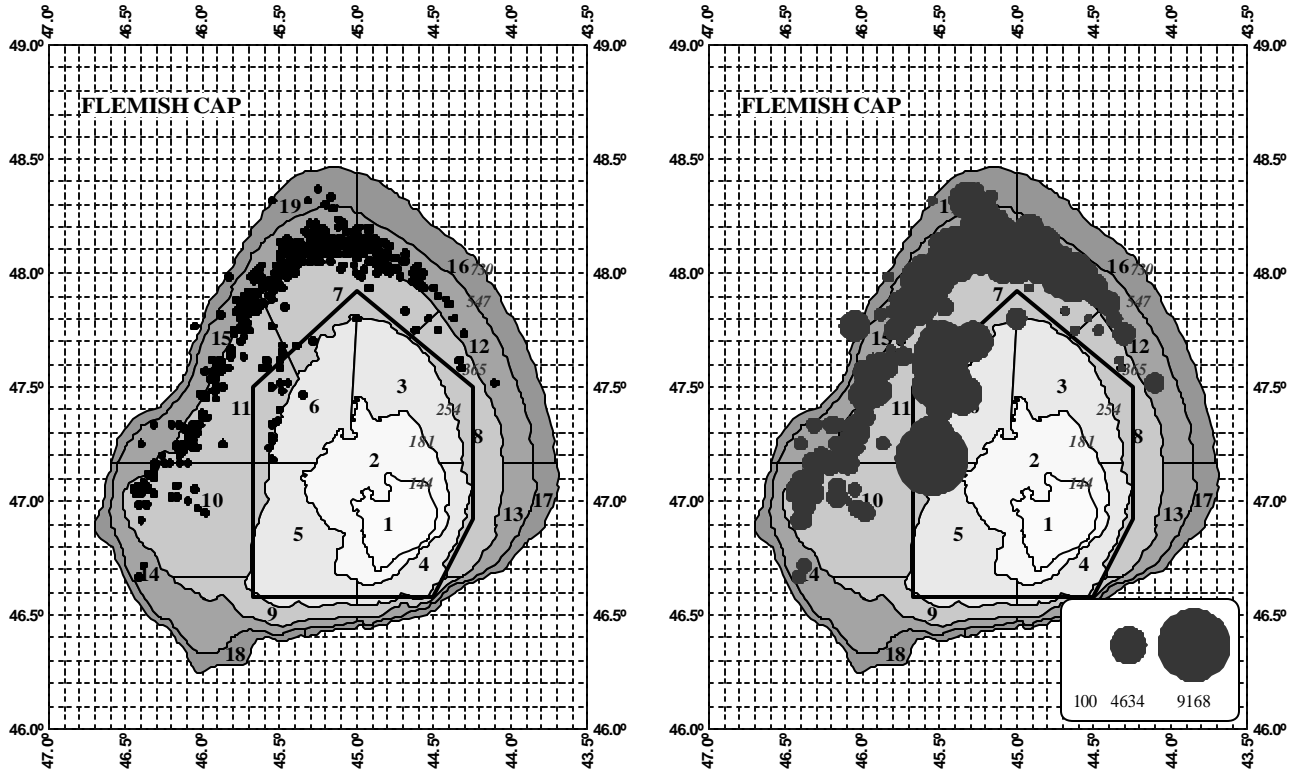


Fig. 1. Geographical location and distribution of Spanish catches (kg) on Flemish Cap (NAFO Div. 3M) in 2001. (Depth in meters.)

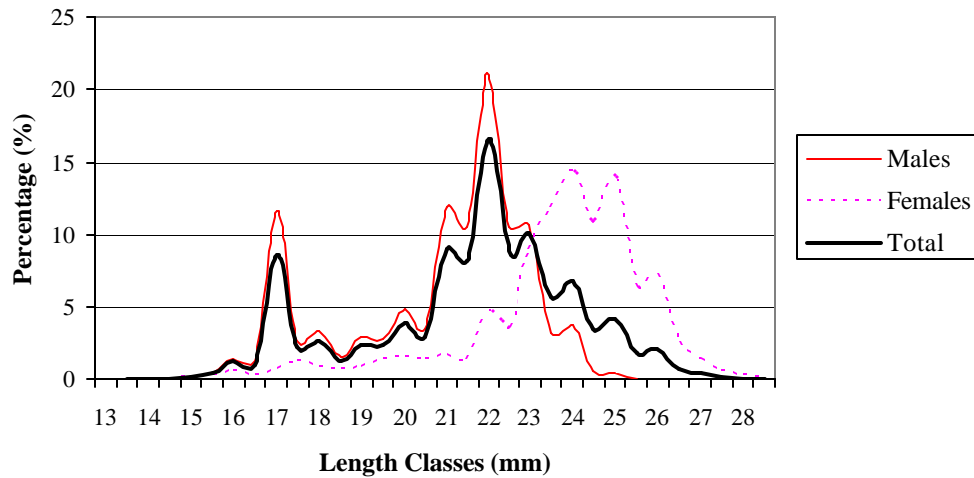


Fig. 2. Length distribution of shrimp as percentage from catches sampled in October.