

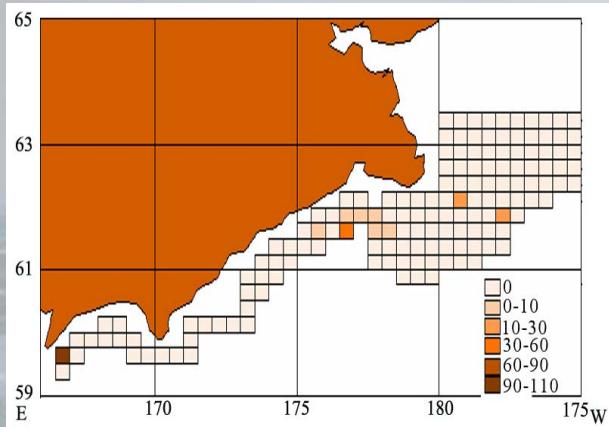
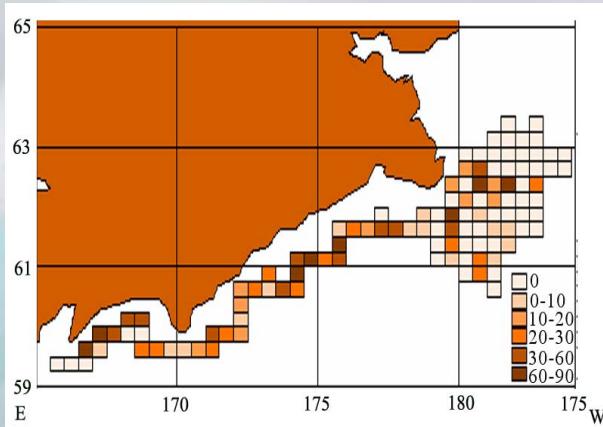
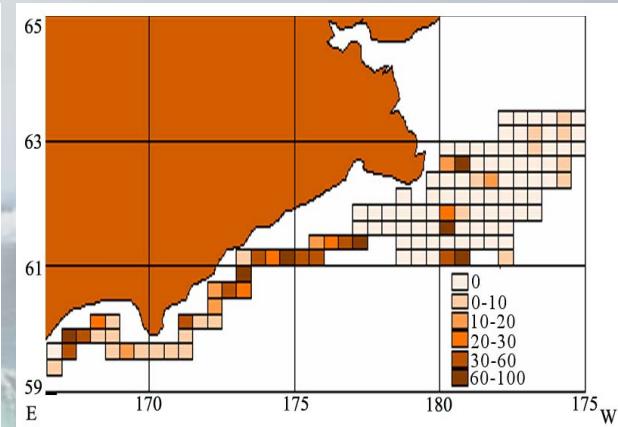
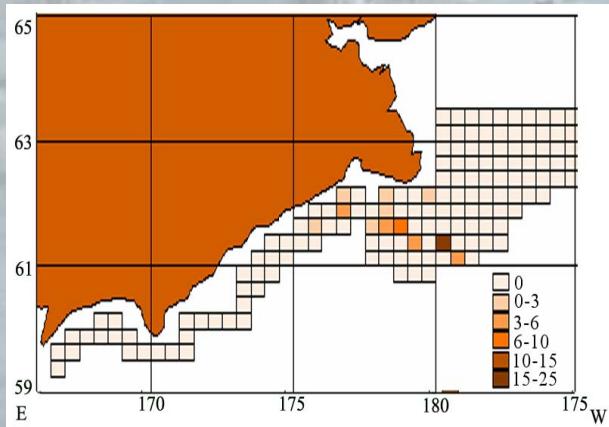
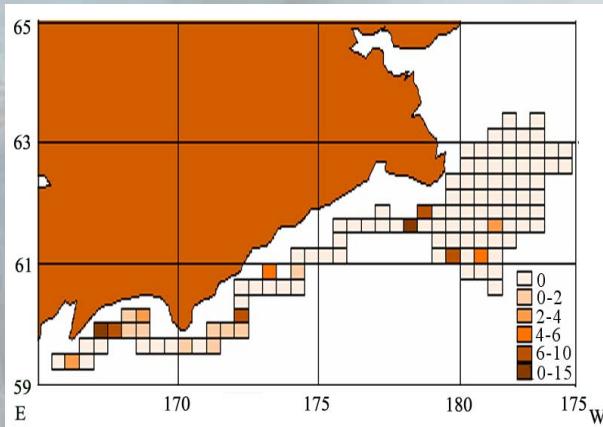
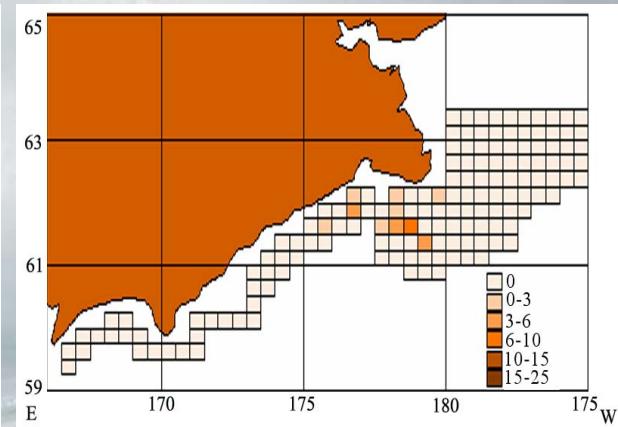
Poachers (Agonidae) of the Russian part of the Bering Sea: spatial distribution and biology

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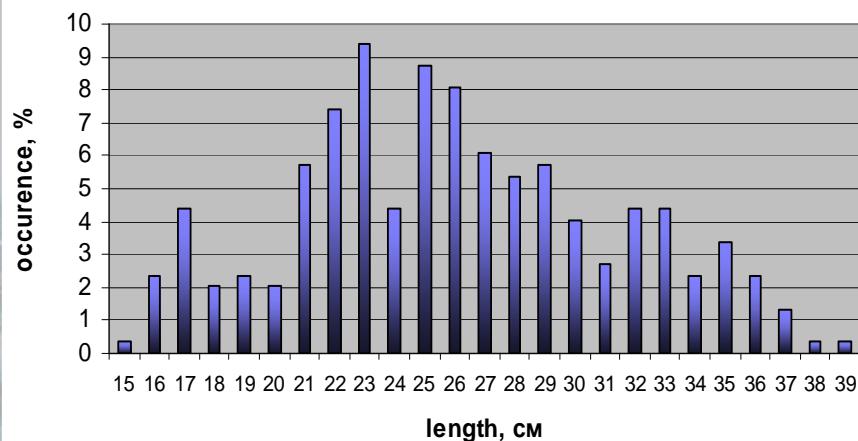
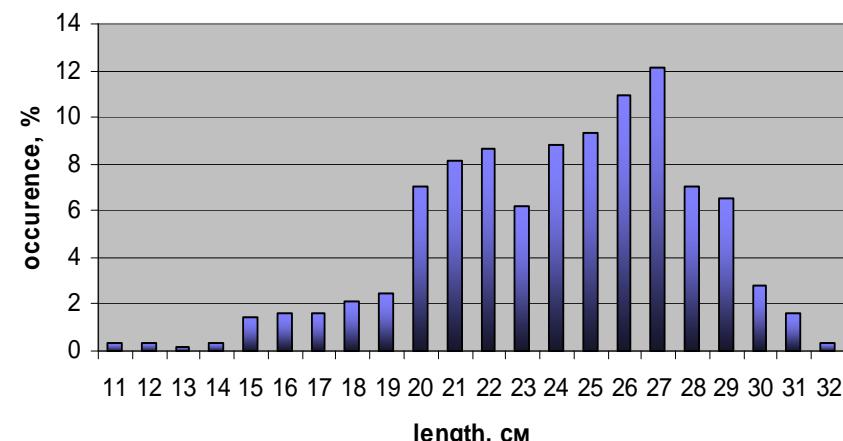
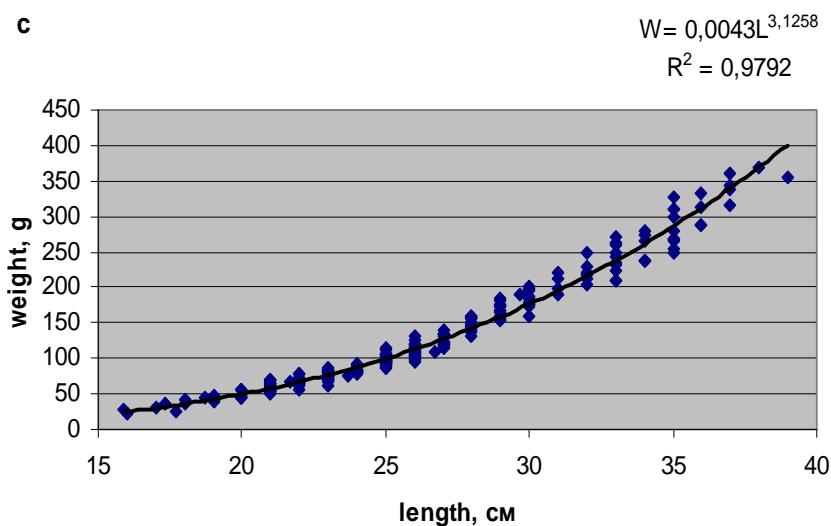
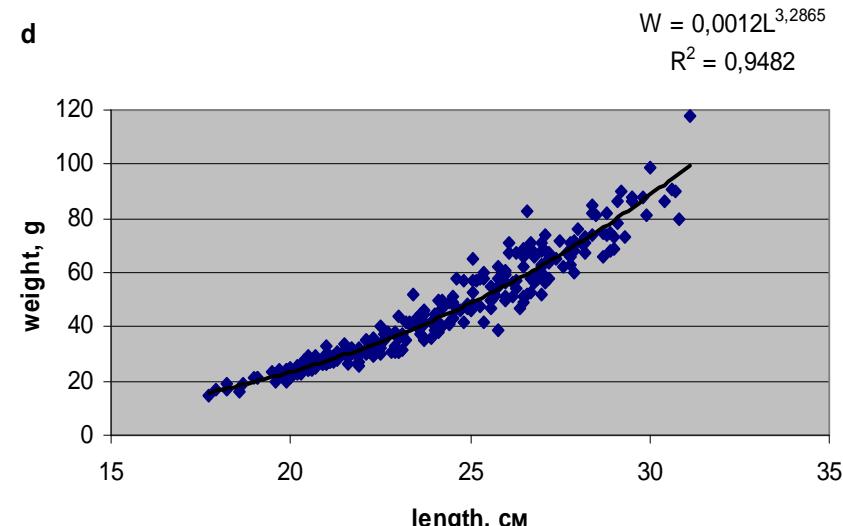
List of cruises

Number	Year	Months	Ships' names	Observers
1	1996	June-July	F/V Rean-maru 35	P.A. Balykin, O.G. Zolotov
2	1996	July-August	F/V Aq-maru 75	A.I. Glubokov, V.V. Maslennikov
3	1996	September-October	F/V Rean-maru 35	A.I. Vapkentin, N.I. Naumenko
4	1996	December	F/V Rean-maru 35	E.A. Michalutin, I.K. Trofimov
5	1997	June	F/V Kaye-maru 28	S.I. Moiseev, A.M. Orlov
6	1997	June	F/V Tenw-maru 78	A.S. Krovnin, V.N. Filatov
7	1997	June-July	F/V Aq-maru 75	A.I. Glubokov, K.V. Ukolov
8	1998	November	F/V Kaye-maru 28	V.A. Bizikov, Ch.M. Nigmatullin
9	1998	December	F/V Tenw-maru 78	D.O. Alekseev
10	1999	June	F/V Kaye-maru 28»	V.A. Bizikov, A.I. Glubokov
11	1999	December	F/V Kaye-maru 28	D.O. Alekseev, V.A. Bizikov
12	2000	June	F/V Kaye-maru 28	D.O. Alekseev, A.I. Glubokov
13	2000	September-October	F/V Kaye-maru 28	S.B. Popov, D.A. Terent'ev
14	2001	June-July	F/V Kaye-maru 28	A.I. Glubokov, U.A. Fedorets
15	2001	August	F/V Kaye-maru 28	D.O. Alekseev, R.N. Novikov
16	2001	October-December	F/V Kaye-maru 28	S.B. Popov, D.A. Terent'ev
17	2002	August-September	F/V Kaye-maru 28	A.O. Zolotov
18	2002	November	F/V Kaye-maru 28	A.A. Bonk, S.B. Popov
19	2003	October-November	BFFT Bagration	G.V. Norvillo, A.V. Khodakov
20	2003	October-November	BFFT Pioneer Nikolaeva	A.I. Glubokov, S.B. Popov

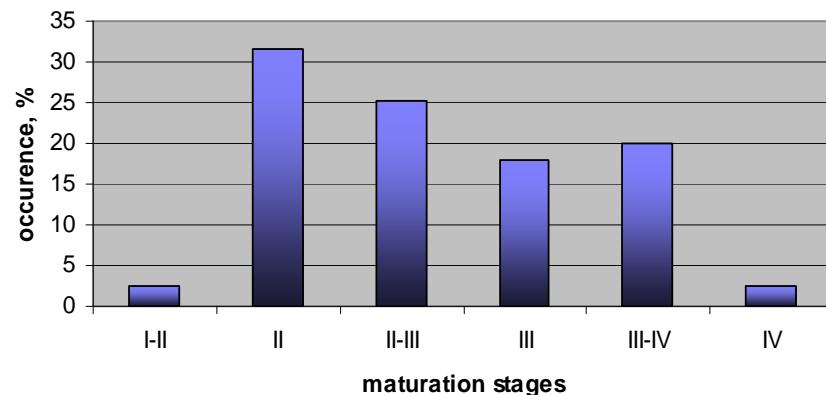
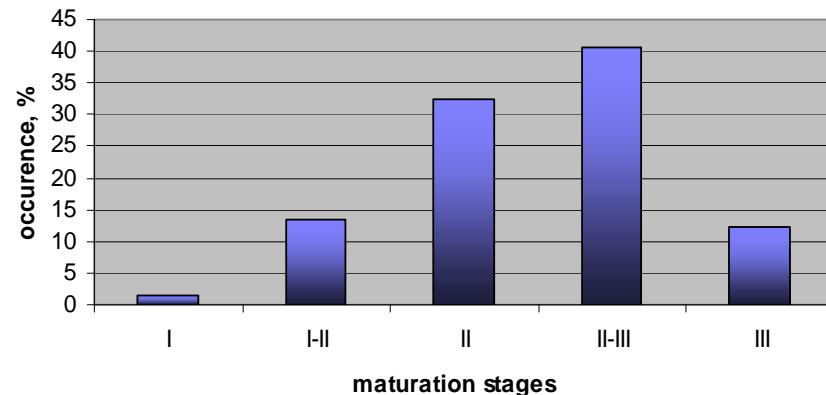
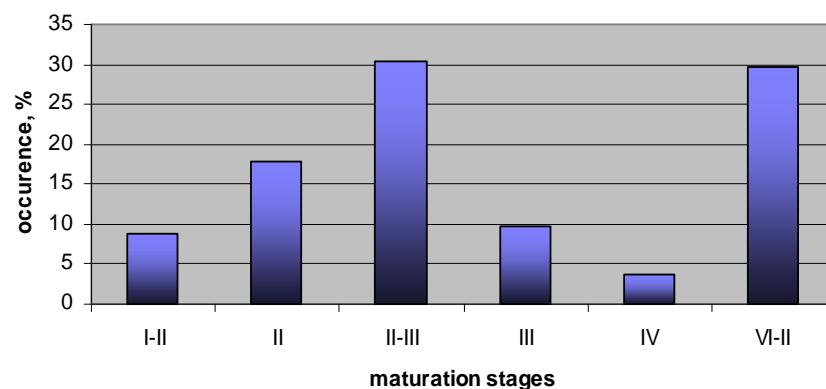
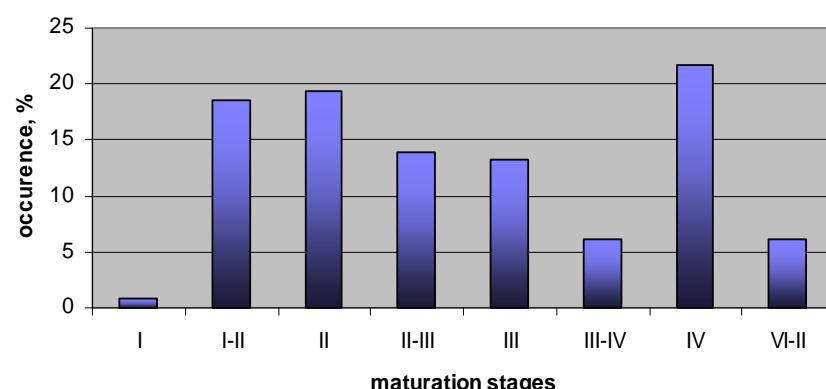
a**b****c****d****e****f**

Scheme of poachers' (Agonidae) distribution density (kg/mile²) based on the results of trawl survey in different seasons, mean multiannual (1996-2003):

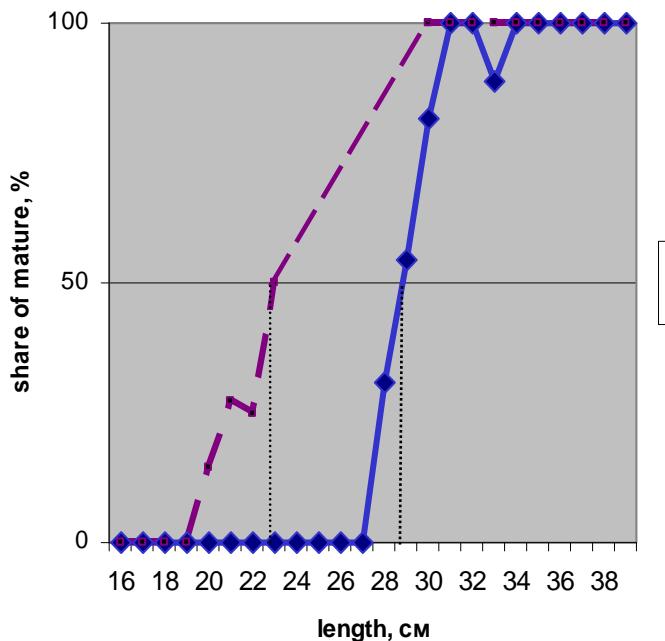
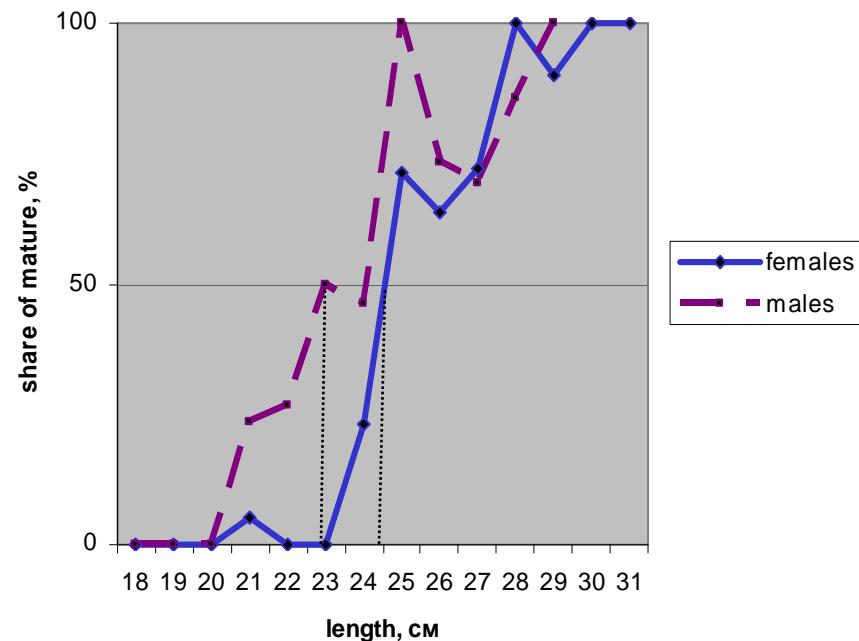
- a – dragon poacher *Percis japonica*, summer; b – dragon poacher, autumn; c – dragon poacher, winter;
- d – sawback poacher *Sarritor frenatus*, summer; e – sawback poacher, autumn;
- f – longnose poacher *S. leptorhynchus*, summer

a**b****c****d**

Size frequency of dragon poacher *Percis japonica* (a) and sawback poacher *Sarritor frenatus* (b) and length-weight dependence of dragon poacher (c) and sawback poacher (d) from the Northwest Bering Sea

a**b****c****d**

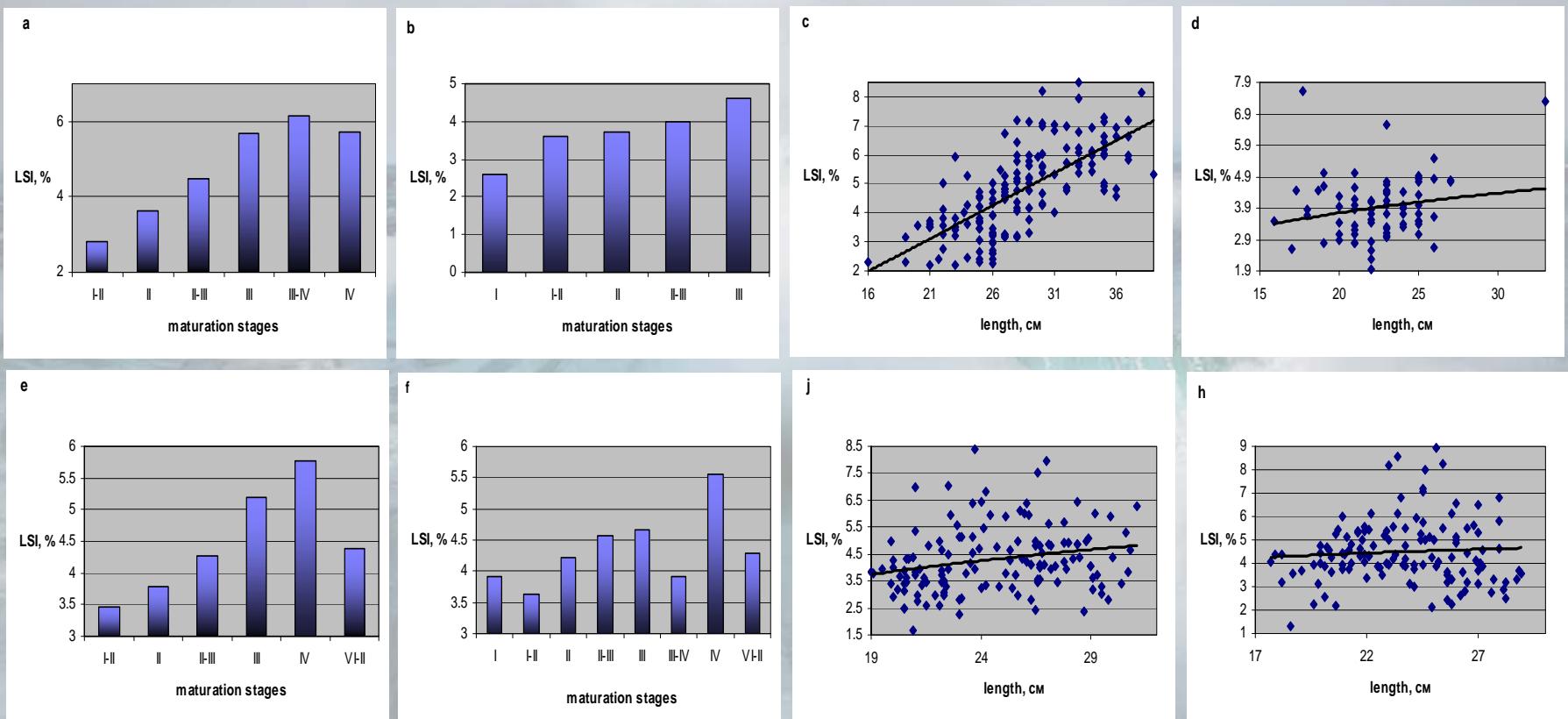
Distribution in catches of individuals of dragon poacher *Percis japonica* (5-12 July) and sawback poacher *Sarritor frenatus* (25 July – 18 August) by maturation stages in 2000:
 a – dragon poacher, females; b – dragon poacher males; c – sawback poacher, females;
 d – sawback poacher, males

a**b**

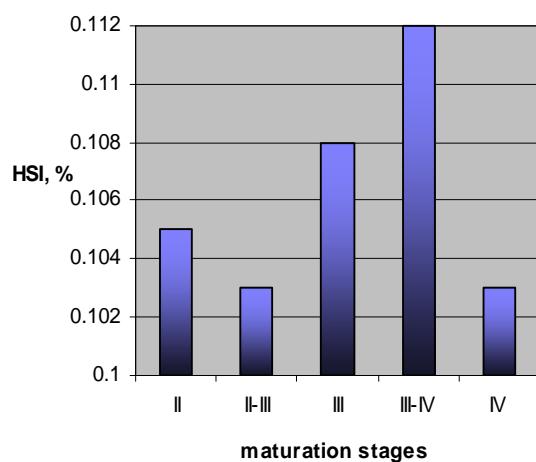
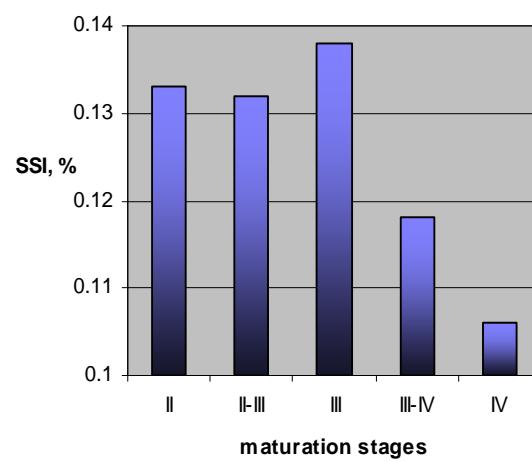
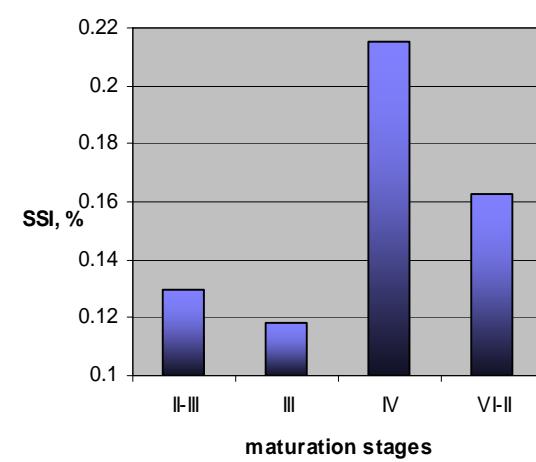
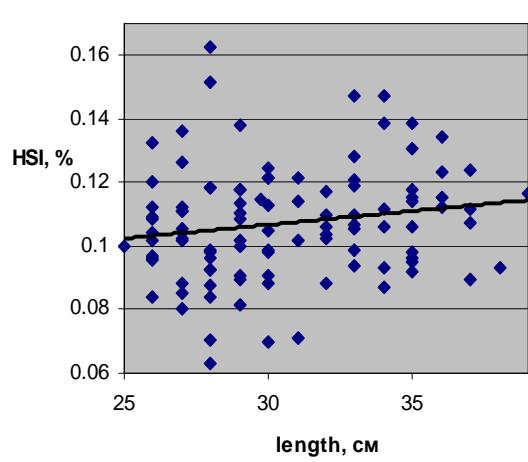
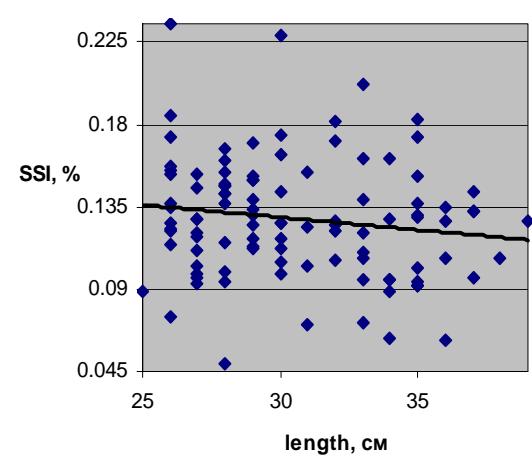
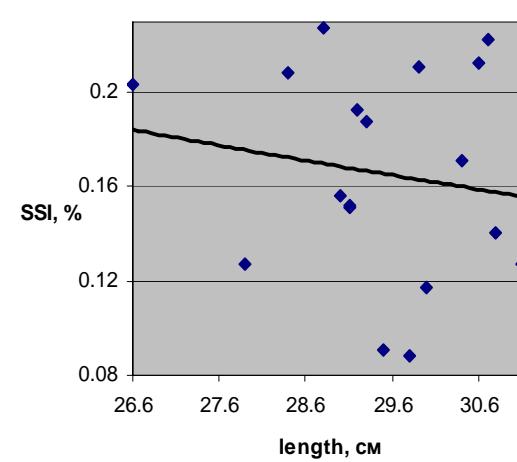
Ogyvas of dragon poacher *Percis japonica* (a) and sawback poacher *Sarritor frenatus* (b)
in Northwest Bering Sea

Productivity levels of dragon poacher *Percis japonica* and
sawback poacher *Sarritor frenatus* from the Olyutor Bay of the Bering Sea

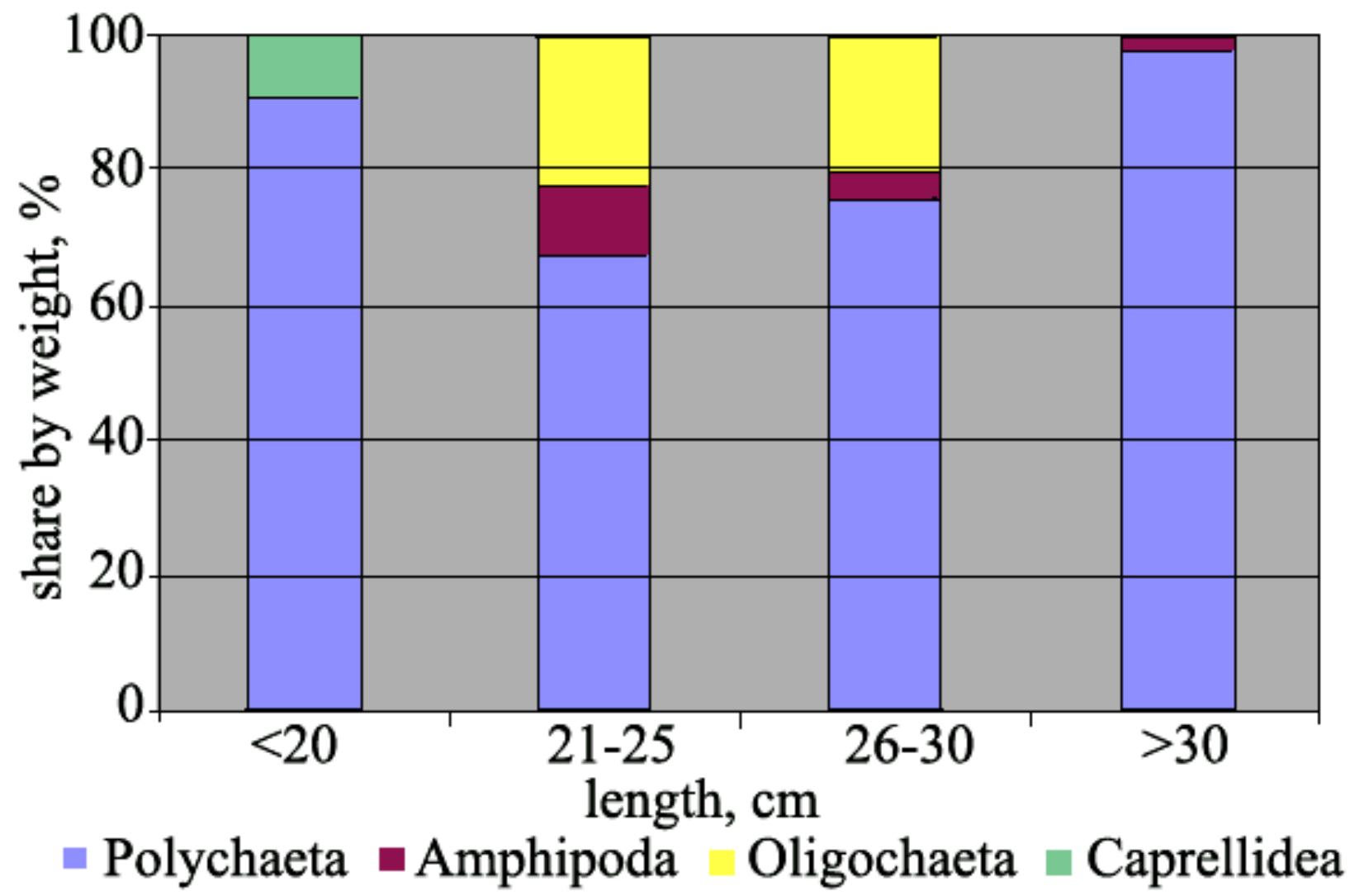
Length, cm	Weight, g	GSI, %	Diameter of the oocyte, mm	Fecundity	
				absolute, eggs	relative, eggs/kg of weight
<i>Percis japonica</i> (5-9 July 2000.)					
35.0	265	9.63	2.9	-	-
34.0	280	6.93	2.9	5970	21321
37.0	360	7.62	-	6752	18756
Average			2.9	6361	20039
<i>Sarritor frenatus</i> (15-16 August 2000)					
28.8	82	11.67	1.3	3949	48159
28.9	75	5.31	1.5	1293	17237
26.6	83	17.03	1.8	3303	39795
Average			1.53	2848	35064



Liver index (LSI) of females and males of dragon poacher *Percis japonica* (5-12 July) and sawback poacher *Sarritor frenatus* (25 July – 18 August) from the Northwest Bering Sea depending on the maturation stage and individual length in 2000: a, c – dragon poacher, females; b, d – dragon poacher, males; e, g – sawback poacher, females; f, h – sawback poacher, males

a**c****e****b****d****f**

Heart index (HIS) and spleen index (SSI) of dragon poacher *Percis japonica*, females and sawback poacher *Sarritor frenatus*, individuals of both sexes and females from the Northwest Bering Sea depending on the maturation stage and individual length in 2000:
 a-d – dragon poacher, females; e – sawback poacher, both sexes; f – sawback poacher, females



Diet composition of dragon poacher *Percis japonica* from the Northwest Bering Sea (% by weight)

Diet composition of sawback poacher *Sarritor frenatus* of different size groups from the Northwest Bering Sea (by frequency in full stomach),
 25 July – 18 August 2000

Food components	Size groups, cm				
	< 20.0	20.1-23.0	23.1-26.0	26.1-29.0	> 29.0
Amphipoda	100.0	95.1	95.3	85.2	92.9
Euphausiidae	-	1.2	3.1	4.9	-
Isopoda	-	7.3	3.1	6.6	-
Zoarcidae (juv.)	-	-	-	1.6	-
Polychaeta	-	3.7	10.9	9.8	-
Pandalidae	-	1.2	-	3.3	7.1
Fish eggs	-	-	-	1.6	-
Wastes of fish processing	4.8	1.2	-	-	-
Number of full stomach, ind.	21	82	64	61	14
Number of empty stomach, ind.	1	6	10	5	0

Organs' indexes of fish from the Bering Sea in summer-autumn periods

Spices	Indexes				Source of information
	LSI	HSI	SSI	GBSI	
<i>Somniosus pacificus</i>	<u>9.19</u> 9.74	<u>0.181</u> 0.176	<u>0.406</u> 0.421	<u>0.553</u> 0.498	Glubokov, 2004a
<i>Bathyraja aleutica</i>	<u>8.94</u> 8.63	<u>0.212</u> 0.221	<u>0.511</u> 0.532	- -	Glubokov, Orlov, 2000a
<i>Antimora microlepis</i>	<u>7.89</u> 7.66	<u>0.084</u> 0.11	<u>0.064</u> 0.045	<u>0.124</u> 0.181	Glubokov, 20046
<i>Bothrocara brunneum</i>	<u>1.13</u> 1.01	- -	- -	<u>0.463</u> 0.615	Glubokov, Orlov, 20006
<i>Lycodes concolor</i>	<u>2.71</u> 2.22	- -	<u>0.298</u> 0.163	<u>0.347</u> -	-“-
<i>Myoxocephalus polyacanthcephalus</i>	<u>7.88</u> 7.72	<u>0.39</u> 0.409	<u>0.396</u> 0.404	<u>1.01</u> 0.99	Glubokov, Orlov, 2004
<i>Percis japonica</i>	<u>4.75</u> 3.91	<u>0.107</u> 0.105	<u>0.129</u> 0.172	<u>0.206</u> -	Own data
<i>Sarritor frenatus</i>	<u>4.29</u> 4.49	<u>0.139</u> -	<u>0.166</u> 0.138	<u>0.141</u> -	-“-

Note. Over line – females under line – males

THANK YOU