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Current Status of Sorting and Computer Listing for ICNAF Larval Herring Surveys, 1971-78

by

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An appraisal of the computer listings of larval herring length frequencies revealed a number of discrepancies in the total numbers of larvae per $10m^2$ between the .333 mm and .505 mm mesh samples. A station by station examination of each cruise was conducted in an effort to find the causes of these discrepancies (Table I). The majority of the discrepancies appear to have resulted from the removal of larval herring from the .333 mm mesh samples prior to their final sorting at the Polish Sorting Center in Szczecin; however, a more thorough analysis of the individual station pairs of samples for the two mesh sizes is needed to further clarify the possible cause(s) and significance of discrepancies for individual cruises and stations. This may involve comparison of the sorting sheets and/or original samples with the standard computer data listings.

The .505 mm mesh samples have only on rare occasions been sorted for total ichthyoplankton, and it is not possible at this time to ascertain whether similar discrepancies exist for other species. As with the larval herring data, an analysis should be performed on those cruises for which total ichthyoplankton was sorted from both meshes.

Table II is a compilation of the sorting records for all ICNAF Larval Herring Surveys (exclusive of inshore Gulf of Maine) conducted between 1971 and 1978. Standard computer summaries are available for the .333 mm and .505 mm mesh and the tabulated listing is based on them. The original sorting records were used for the fine mesh samples (.165 mm and .053 mm) and the larval herring gut content analysis. Sorting of the fine mesh samples is still in progress, and the listing will be updated as individual cruises are completed. The sorting of the neuston samples (.505 mm mesh) was sporadic, and reliable

documentation is either lacking or unavailable for most cruises. The listing for the neuston provided in the table is based on a combination of original sorting sheets and archival records.

Table I. Comparison of the total number of larvae per 10m² (All stations combined) enumerated on the .333 mm and .505 mm mesh computer summaries.

CRUISE	.333	.505	.333/.505	Possible source of error
*Delaware II 71-04	1071.8	5824.8	0.18	5 stations missing from .333 accounts for difference.
*Viandra 71-01	2934.5	7130.8	0.41	.333 presorted (?) ¹
*Walther Herwig 71-01	27785.3	5173.9	5.37	.333 presorted in Germany ²
*Albatross IV 71-07	486.1	3889.1	0.12	.333 presorted (?) - .333 represents residual.
*Argus 72-01	29.2	993.3	0.03	.333 presorted (?) - .333 represents residual.
Wieczno 72-01	7814.6	8297.8	0.94	
Argus 72-02	18028.4	12768.7	1.41	
Anton Dohrn	5310.4	4852.9	1.09	
*Albatross IV 72-09	102.9	1883.1	0.05	.333 presorted (?) - .333 represents residual.
Cryos 73-01	3409.9	3600.8	0.95	
*Wieczno 73-40	15025.6	31551.4	0.48	Stations 3-57 are missing from .333 summary.
*Belogorsk 73-01	26176.5	78799.1	0.33	Stations 27 and 84 are missing which accounts for entire difference.
*Walther Herwig 73-43	85831.6	34987.7	2.54	Unknown - 7 stations account for 70% of difference.
*Albatross IV 73-09	17086.3	8685.7	1.97	Unknown
Albatross IV 74-02	527.4	436.6	1.21	
Cryos 74-04	1667.9	1932.3	0.86	
Prognoz 74-01	58752.8	47634.8	1.23	
*Wieczno 74-01	413.4	27251.4	0.02	.333 used in sorting experiment in Poland.
Anton Dohrn 74-01	21125.2	19974.6	1.06	
Albatross IV 74-13	10356.4	11181.7	0.93	
Albatross IV 75-02	665.5	615.0	1.08	
*Belogorsk 75-02	15.7	569.9	0.03	.333 presorted (?) - .333 represents residual.
Belogorsk 75-03	31338.3	25602.1	1.22	
Anton Dohrn 75-187	18442.1	13975.5	1.32	
Albatross IV 75-14	2296.3	1903.0	1.21	
Albatross IV 76-01	1722.5	1289.7	1.34	
*Wieczno 76-03	1690.7	347.0	4.87	Stations 1-48 missing from .505.
*Anton Dohrn 76-02	259.2	105.4	2.46	Unknown.
*Researcher 76-01	241.7	149.1	1.62	Unknown.
Mt. Mitchell 77-01	91.1	100.9	0.90	

*15 out of 30 cruises have serious discrepancies.

¹Total abundance on original basic data summary is 6538.5 (.333 mm mesh).

²Total abundance on original basic data summary is 9197.0 (.333 mm mesh).

Table 2. Current status of number of stations sorted for ICNAF Larval herring surveys¹.

CRUISE	DATE	61 cm BONGO				20 cm BONGO		NEUSTON ²
		.505 mm MESH		.333 mm MESH		.165 mm MESH	.505 mm MESH	
		LARVAL HERRING	TOTAL ICHTHYOPLANKTON	ZOOPLANKTON	GUT CONTENTS	ZOOPLANKTON	ICHTHYOPLANKTON	
CRYOS 71-01	09-24 SEP	116	--	--	--	--	--	
DELAWARE II 71-04	21 SEP-04 OCT	123*	123	--	--	--	--	
VIANDRA 71-01	09-25 OCT	107*	107	--	--	--	--	
WALTHER HERWIG 71-01	28 OCT-12 NOV	118*	118	--	--	--	--	
ALBATROSS IV 71-07	02-17 DEC	155*	155	--	--	--	--	
ARGUS 72-01	22-30 SEP	70*	70	--	--	--	--	
WIECZNO 72-01	02-28 OCT	130	130	--	--	--	--	
ARGUS 72-02	12-28 OCT	111	111	--	--	--	--	
ANTON DOHRN 72-01	31 OCT-12 NOV	105	105	--	--	--	--	
ALBATROSS IV 72-09	02-20 DEC	127*	127	--	--	--	--	
CRYOS 73-01	16-28 SEP	76	76	--	--	--	--	
WIECZNO 73-40	28 SEP-20 OCT	140*	86	--	--	--	--	
BELOGORSK 73-01	15 OCT-01 NOV	119*	119	--	--	--	--	
WALTHER HERWIG 73-43	28 OCT-08 NOV	121*	121	--	--	--	--	
ALBATROSS IV 73-09	04-20 DEC	111*	111	49	--	--	--	
ALBATROSS IV 74-02	11-22 FEB	58	58	29	--	--	--	
CRYOS 74-04	07-24 SEP	115	115	49	6	5	25	
WIECZNO 74-01	27 SEP-18 OCT	145*	145	69	--	7	--	
PROGNOZ 74-01	18-30 OCT	90	90	45	5	--	--	
ANTON DOHRN 74-01	16-23 NOV	75	75	36	5	4	--	
ALBATROSS IV 74-13	04-19 DEC	108	108	34	73	8	17	
ALBATROSS IV 75-02	12-28 FEB	86	86	81	27	34	84	
BELOGORSK 75-02	25 SEP-08 OCT	90*	90	81	4	7	--	
BELOGORSK 75-03	17-30 OCT	85	85	80	5	10	--	
ANTON DOHRN 75-187	01-18 NOV	143	143	56	49	8	--	
ALBATROSS IV 75-14	05-17 DEC	94	94	91	59	10	--	
ALBATROSS IV 76-01	10-25 FEB	116	116	115	52	10	116 (HERRING)	
BELOGORSK 76-03	04-11 OCT	--	50	--	--	--	--	
WIECZNO 76-03	14 OCT-03 NOV	64*	112	--	16	--	--	
ANTON DOHRN 76-02	15-29 NOV	134*	134	--	19	--	--	
RESEARCHER 76-01	27 NOV-11 DEC	110*	110	52	14	5	--	
MT. MITCHELL 77-01	13-24 FEB	118	118	50	29	3	3	
WIECZNO 77-06	04-24 OCT	148	148	--	--	--	--	
ANTON DOHRN 77-03	01-18 NOV	115	115	--	--	--	--	
DELAWARE II 77-13	08-20 DEC	62	--	--	--	--	--	
ALBATROSS IV 78-02	14 FEB-08 MAR	105	105	--	--	--	--	
WIECZNO 78-04	14 OCT-01 NOV	--	38	--	--	--	--	
ANTON DOHRN 78-03	26 OCT-17 NOV	--	63	--	--	--	--	
ALBATROSS IV 78-15	29 NOV-12 DEC	--	53	--	--	--	--	

*Indicates those cruises where discrepancies in the number of herring larvae exist between the computer listings for the .505 mm and .333 mm mesh samples.

¹Inshore Gulf of Maine cruises (Rorqual R-4-71, Rorqual R-5-71, Rorqual R-6-71, Rorqual R-7-71, Lucille B. 72-01, Albatross IV 72-07, Duchess II 72-01, Duchess II 72-02, Duchess II 74-01, Delaware II 74-12, Challenge 75-01, Delaware II 75-15, Annandale 76-01), and Groundfish Cruises (Albatross IV 68-17, Albatross IV 69-11, Albatross IV 70-06, Albatross IV 73-08, Albatross IV 74-11, Albatross IV 75-12, Albatross IV 76-09) have also been sorted for larval herring but have not been included in the above listing.

²Listing incomplete.