



REPORT OF THE STUDY GROUP ON BALTIC COD AGE-READING

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TERMS OF REFERENCE

At the 82nd ICES Annual Science Conference it was resolved (C.Res.1994/2:40) that "A Study Group on Baltic Cod Age-Reading" will be established under the chairmanship of Dr J. Netzel (Poland) and will work by correspondence in 1995, and report to the 1995 Annual Science Conference to plan a workshop in 1995 with a view to:

- a) establishing a reference collection of otoliths from different sub-divisions, seasons and length groups of cod;
- b) reaching a common interpretation of otolith structure, i.e., first hyaline ring, double rings, edge formation;
- c) standardizing the reading procedure;
- d) compiling a manual on age-reading of cod otoliths.

ACTIVITIES IN 1995

In the beginning of April 1995 the Chairman of the Study Group sent a circular letter to Baltic cod age readers with some questions to answer about the proposed programme for 1995. With the letter there was also enclosed a sample of 50 cod otoliths. There has been some discussion about the age reading problems at a special EU cod meeting (Riga, February 1995). The results are as follows:

- Ad item a) only two readers responded to the question about the size of reference collection. They agreed with the Chairman's suggestion that the reference collection should be 50–200 otoliths per sub-division and should have 1–2 otoliths per 1 cm length class. It is important that the collection consists of otoliths from different seasons (at least spring and autumn) and shows both typical and untypical otoliths.

- Ad item b) there has been only one answer which confirms that the problem of reaching a common agreement on the interpretation of first ring, double rings, the edge of otoliths is of great importance. These problems were discussed during the Gdynia meeting in June 1994. As can be seen from the enclosed list showing results of the comparative reading of an otolith sample circulated among Baltic laboratories, there is still far from uniform reading.

- Ad item c) the reading procedures used in different Baltic laboratories are described in the report of the previous year's workshop. The opinion expressed now by two of the "circular" sample readers is that everyone should continue reading according to their preferred procedure and that the Study Group should rather concentrate its work on the interpretation problems.

- Ad item d) at the last Workshop meeting there was full agreement for compiling a manual on age-reading of cod otoliths and there is still an opinion that this is a good idea and that a manual would be very helpful for new age readers. During the last EU cod meeting there was a proposal from a Danish representative to prepare this manual.

With regard to the attached table, the results of comparative reading of an otolith sample circulated among Baltic laboratories show that large discrepancies between the twelve readers still exist. In the sample of otoliths circulated, there exists no single otolith for which there is a uniform age interpretation by the age readers involved. It is suggested that this sample should be read again during the next meeting of the Study Group on Baltic Cod Age-Reading.

The Chairman has been informed that the technical side of the next meeting (to be held in Warnemünde, Germany in June 1996) will be prepared by the host country. There is hope of achieving further progress in improving the accuracy of Baltic cod age-reading.

Results of comparative reading. Otolith sample from Gulf of Gdansk December 1994 and February 1995.

No	A	B	C	D	E	F	G	H	I	J	K	L
1	1	1	1	1	1	1	0	0	0	1	0	0
2	1	1	0	0	1	1	0	0	0	1	0	0
3	1	1	0	0	1	1	0	0	0	1	0	-
4	1	0	0	0	0	1	0	0	0	0	0	0
5	1	1	0	0	0	0	0	0	0	0	0	0
6	1	0	1	1	1	1	0	0	0	1	0	0
7	1	1	1	1	1	1	0	0	0	1	0	0
8	1	0	1	1	0	1	0	0	0	1	0	0
9	1	1	1	1	1	1	0	0	1	1	0	0
10	1	1	1	0	1	0	0	0	1	1	0	1
11	1	1	1	1	1	0	0	0	0	1	0	0
12	2	1	0	0	1	1	0	0	0	1	1	-
13	2	1	1	1	1	1	0	0	1	2	1	1
14	2	2	2	2	1	2	0	0	1	2	1	1
15	2	1	1	1	1	1	1	1	1	2	2	1
16	2	2	2	2	2	2	1	1	2	3	1	2
17	2	2	2	2	1	2	1	1	1	2	1	1
18	3	1	2	2	1	2	1	1	1	2	1	1
19	3	2	2	2	1	2	1	1	1	3	2	2
20	2	2	2	2	1	2	1	1	1	3	2	2
21	2	2	3	3	1	2	1	1	1	2	1	2
22	3	3	3	3	1	2	1	1	1	3	2	2
23	3	2	2	2	1	2	1	1	1	3	2	2
24	3	2	3	3	1	2	1	1	1	3	1	2
25	3	3	3	3	1	2	1	1	1	2	1	2
26	3	2	2	2	1	1	2	2	2	2	2	2
27	3	3	3	4	2	3	2	-	2	3	2	2
28	3	3	3	4	2	3	2	2	2	2	3	2
29	4	3/4	3	3	3	3	2	2	2	3	2	3
30	3	3	3/4	4	2	2	-	-	2	3	2	3
31	3	3	4	4	2	2	2	2	2	3	2	3
32	1	1	1	1	2	2	1	1	1	1	1	1
33	2	1	2	2	2	3	1	1	1	1	1	1
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35	1	1	2	1	1	1	1	1	1	1	1	1
36	2	2	1	1	1	1	1	1	1	1	1	1
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38	2	2	2	2	2	2	1	1	1	1	1	1
39	2	2	1	1	1	3	1	1	1	1	1	
40	2	2	2	2	2	2	1	1	2	1	1	1
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50	4	4	4	4	3	4	2	2	3	4	3	3