

PART III

NOTES, ABSTRACTS AND NEWS

NOTE: I

FATTY ACID COMPOSITION OF ANCHOVIELLA AND THRISSOCLEUS

Anchoviella and thrissocleus constitute two species of good food fish of India. Both belong to the family of clupeidae. Their phospholipid composition was reported earlier (Gopakumar & Rajendranathan Nair, 1971). It was also reported (Gopakumar & Rajendranathan Nair, 1967) that polyunsaturated fatty acids occur predominantly in the phospholipid fraction of a number of Indian marine fish. Fatty acid and phospholipid composition of oil sardine, another notable member of the family of clupeidae was extensively investigated earlier (Gopakumar and Rajendranathan Nair, 1966). Hence, this work was undertaken with a purpose to investigate the fatty acid composition of these two species and to bring out their possible similarities with the other members of the family of clupeidae.

The fish samples were beheaded, descaled and deboned. The muscle was taken for analysis. Lipids were extracted from the muscle by the method of Bligh and Dyer (1959). The chloroform extract was washed twice following washing procedure of Folch, Lees and Sloane Stanley (1957). The lipids were saponified by the official method of A. O. C. S. Fatty acids were converted to methyl esters by methanol-HCl reagent. Fatty acid composition was determined by gas-liquid chromatography

as reported earlier (Gopakumar and Rajendranathan Nair, 1972).

The results of the study show that the polyunsaturated fatty acids, eicosapentaenoic acid and docosahexaenoic acid, are the two major fatty acids in the phospholipid fraction of both anchoviella and thrissocleus. This was the pattern seen for both phospholipids of mackerel and pomfret (Gopakumar and Rajendranathan Nair, 1967). Myristic, palmitic and stearic acids in the nonphosphorylated fraction constitute the major constituents (thrissocleus, 47.5%, anchoviella, 43.5%). In the nonphosphorylated lipids C_{16} acids (palmitic and palmitoleic) levels were significantly high but polyunsaturated fatty acids levels were low compared to phospholipids, a pattern also seen for South African abalone (De Koning, 1966 IV), hake (De Koning and Mc Mullan 1966). Of the odd numbered acids $C_{17:0}$ and C_{15} were only detected. But $C_{15:0}$ acid is present to a significant level only in the phospholipid fractions. $C_{22:6}$ acid was the major constituent of unsaturated fatty acids in the phospholipids (thrissocleus 21.0%, anchoviella 22.7%). $C_{20:5}$ was the principal component in the non-phosphorylated lipids (thrissocleus 7.7%, anchoviella, 3.0%).

FATTY ACID COMPOSITION OF LIPIDS OF THRISsocLEUS
AND ANCHOVIELLA

Fatty acid designation	ThrissoCLEUS		Anchoviella	
	PL*	NL**	PL	NL
	%	%	%	%
C _{14:0}	2.9	9.0	1.2	7.0
C _{14:1}	1.4	0.5	1.0	1.3
C _{15:0}	1.6	—	0.7	1.5
C _{16:0}	18.2	32.5	20.5	30.9
C _{16:1}	4.0	7.0	8.0	11.0
C _{17:0}	2.0	3.0	2.9	3.0
C _{18:0}	5.0	6.0	6.2	5.6
C _{18:1}	18.7	24.2	19.6	27.8
C _{18:2}	1.6	2.9	0.9	2.0
C _{18:3}	0.9	1.0	—	1.7
C _{18:4}	3.2	0.8	3.2	0.7
C _{20:1}	0.9	2.1	0.5	0.8
C _{20:5}	12.6	7.7	9.0	3.0
C _{22:1}	1.2	0.4	—	1.4
C _{22:4}	0.9	—	1.10	—
C _{22:5}	2.0	—	2.2	—
C _{22:6}	21.0	2.9	22.7	2.3
C _{24:1}	1.9	—	0.5	—

*PL — Phospholipids,

**NL — Nonphosphorylated lipids.

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