

## SULPHUR AND METHIONINE CONTENT OF SOME FRESH WATER FISHES OF MADRAS

The importance of sulphur amino acids, especially of methionine, in our nutrition is too well known to be emphasized. But adequate data on the sulphur and methionine contents of the cheapest of our animal foods viz., fish, are not available. In this note, the total sulphur and methionine content of eighteen common fresh water fishes is presented. Total sulphur was determined by Osborne peroxide method (Winton & Winton, 1945) and methionine by the colorimetric method of Horn. (Horn *et al.*, 1946)

Airan and Joshi (1952) determined the total sulphur and methionine content of three freshwater fishes, which contained less methionine than marine fishes. (Airan and Master, 1953). Our results are comparable to those of Airan and Joshi (1952)

and Love (1950.) It is also comparable with the methionine content of some marine fishes reported by Geiger and Borgstrom (1962). In the data presented in Table I methionine is expressed as percentage of dry matter of fish. By a reference to the data of Natarajan and Sreenivasan (1961), this could be converted to 16% N basis. Some interesting facts are noticed in our data. The small 'trash' fishes like *Barbus mahocola*, *Rasbora daniconius*, *Glossogobius Spp.* contain less total sulphur and methionine than the other species, *Labeo rohita* contained the highest amount of methionine among the fishes studied. Other fishes with methionine content over 2.5% are, *Cyprinus carpio var Vulgaris*, *C. carpio var specularis*, (mirror carp), *Etroplus suratensis*, *Catla* and *Barbus Tor*. It is clear that the freshwater fishes are a fairly good source of methionine.

TABLE I SULPHUR AND METHIONINE CONTENT OF  
FRESH WATER FISHES

| Name of fish                | Length<br>Cm. | Weight<br>Kg. | Total-S. % on<br>Moisture<br>Free basis | Methionine %<br>on Moisture<br>Free basis |
|-----------------------------|---------------|---------------|---|---|
| <i>LABEO FIMBRIATUS</i>     | 54.0          | 2270          | 1.196                                   | 2.02                                      |
| <i>L. CALBASU</i>           | 52.0          | 2270          | 1.16                                    | 2.00                                      |
| <i>L. ROHITA</i>            | 79.0          | 7250          | 1.09                                    | 2.94                                      |
| <i>L. KONTIUS</i>           | 35.0          | 450           | 1.31                                    | 1.86                                      |
| <i>BARBUS DUBIUS</i>        | 43.0          | 1180          | 1.28                                    | 2.02                                      |
| <i>BARBUS HEXAGONOLEPIS</i> | 61.7          | 3750          | 0.89                                    | 2.02                                      |
| <i>BARBUS TOR</i>           | 61.2          | 3700          | 1.59                                    | 2.73                                      |

TABLE I Contd.

| Name of fish                                    | Length<br>Cm. | Weight<br>Kg. | Total - S.% on<br>Moisture<br>Free basis | Methionine %<br>on Moisture<br>free basis |
|---|---------------|---------------|--|---|
| <i>CATLA CATLA</i>                              | 30.0          | 325           | 1.01                                     | 2.51                                      |
| <i>TILAPIA MOSSAMBICA</i>                       | 25.0          | 225           | 1.23                                     | 2.20                                      |
| <i>CYPRINUS CARPIO</i> var<br><i>SPECULARIS</i> | 19.0          | 100           | 0.98                                     | 2.70                                      |
| <i>C. CARPIO</i> VAR <i>VALGARIS</i>            | 31.0          | 395           | 1.15                                     | 2.86                                      |
| <i>MACRONES AOR</i>                             | 56.0          | 900           | 1.22                                     | 2.01                                      |
| <i>WALLAGONIA ATTU</i>                          | 63.0          | 1020          | 1.20                                     | 1.80                                      |
| <i>CIRRHINA CIRRHOSA</i>                        | 68.0          | 2750          | 1.15                                     | 1.98                                      |
| <i>ETROPLUS SURATENSIS</i>                      | 84-92         | 16            | 1.08                                     | 2.68                                      |
| <i>RASBORA DANICONIUS</i>                       | 8.0           | 15            | 0.90                                     | 1.64                                      |
| <i>BARBUS MAHOCOLA</i>                          | 6.0           | 10            | 0.89                                     | 1.40                                      |
| <i>GLOSSOGOBIUS GIURIS</i>                      | 13.0          | 20            | 0.94                                     | 1.83                                      |

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