

A COMPARATIVE STUDY TO ESTIMATE THE CHEMICAL COMPOSITION OF MUSCLES IN TWO DIFFERENT ZONES OF THE BODY IN TWO SPECIES OF TELEOSTS; YELLOWFIN BARBEL, *LUCIOBARBUS XANTHOPTERUS* (HECKEL, 1843) AND REDBELLY TILAPIA, *COPTODON ZILLII* (GERVAIS, 1848)

Mohammed W. H. AL-Mohanna and Ali Naser Zubaidi*

Department of Biology, College of Education for Pure Sciences, University of Kerbala, Karbala, Iraq.

*e-mail : alinaserzubaidi2019@gmail.com

(Received 23 April 2019, Revised 18 August 2019, Accepted 29 August 2019)

ABSTRACT : The current study was conducted to estimate the chemical composition of muscles in different regions of the body. The study included two species of teleosts belonging to two different families; redbelly tilapia, *Coptodon zillii* (Gervais, 1848), which belongs to the family Cichlidae and Yellowfin barbel, *Luciobarbus xanthopterus* (Heckel, 1843), which belongs to family Cyprinidae. Specimens were collected from the AL-Hindiyah river (Euphrates River) at the province of Karbala in Iraq in April, 2019, using gill net and cast net. The chemical components included protein, lipid, moisture and ash. The results showed that there were differences in the chemical content between the studied species. As well as in individuals of the same species, in addition to different content in the regions of the body studied (R1 and R2) according to the weight groups studied in fishes. The total values of protein content ranged between (12.64 - 14.61%) and (13.73 - 15.83%) in *C. zillii* and *L. xanthopterus* respectively, while the total values of lipid content ranged between (1.27 - 2.12%) in *C. zillii* and ranged between (1.31 - 1.95%) in *L. xanthopterus*, the moisture content had very higher values ranged between (76.93 - 79.93%) in *C. zillii* and between (75.35 - 79.25%) in *L. xanthopterus* while the total ash content values ranged between (0.82 - 1.33%) and (1.24 - 1.65%) in *C. zillii* and *L. xanthopterus*, respectively. The study also showed an inverse relationship between fatty content and moisture content and there was a positive relationship between fish weight and protein, fat and ash content. The results of the statistical analysis showed no significant differences ($P < 0.05$) in the total values of the contents of the protein, lipid and moisture, while revealed significant differences ($P < 0.05$) in the total value of ash content in the studied fish, but when the results are statistically analyzed in the in the studied regions (R1 and R2). The results showed no significant differences in the values of protein, fat and moisture contents except in (R2) region of protein content the differences were significant in both studied species. As for ash content, the differences were significant in the studied regions of the body in two studied species.

Key words : *Coptodon zillii*, *Luciobarbus xanthopterus*, fish muscles, chemical composition.

INTRODUCTION

Luciobarbus xanthopterus (Heckel, 1843) is one of the most important species found in the Tigris and Euphrates rivers. It is found in various Iraqi freshwater ecosystem from north to south. This species spread in the central and southern areas of the Tigris and Euphrates rivers (AL-Mukhtar *et al*, 2009). *L. xanthopterus* belong to family cyprinidae and are high economic value fishes (AL-Rudainy *et al*, 2006), several studies have been interested in this species of fishes, some of them are interested in its distribution and growth (AL-Rudainy *et al*, 1999) and others interested in its reproduction (AL-Hamed, 1972) and some of them studied its food (AL-Daham *et al*, 1992).

Coptodon zillii (Gervais, 1848) belong to family Cichlidae, which are from Africa, it has more than 100 species includes three genus *Oreochromis*, *Tilapia* (*Coptodon*) and *Sarotheradon*, this fishes distributed in Africa and Asia represented by Egypt, Jordan, Algeria, Niger, Chad and Senegal, entered Iraqi waters in an unknown method or it may have moved from the waters of the riparian with Iraq in Iran, Syria and Turkey and spread a remarkable (Abolheni *et al*, 2017).

Fish is one of the most important sources of animal protein available and is a good source of it and other elements maintenance of a healthy body. Compared with the red meat, fish flesh is easy to digest because it contains long muscle fibers, a good source of fluorine and iodine