



## Oral

# Molecular and morphological study of *Clinostomum complanatum* (Digenea: Clinostomidae) in Aras River from Iran

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**Background:** This study was performed to morphological and molecular differentiation of yellow grub infecting edible fishes in Aras River from Iran.

**Methods:** In this study, 100 fish belonging to the nine species were collected from Aras River in 2021-2022. The samples were analyzed using the combination of morphological and molecular techniques for infection with *C. complanatum* metacercariae. The isolated metacercariae from recovered cyst were fixed with 70% ethanol and clarified with amman's lactophenol and staining by azocarmine. The total DNA of isolate metacercariae was extract using a Qiagen extraction kit, according to the manufacturer's instructions. The PCR was performed by the partial mitochondrial COX-I gene with 620 bp size was amplified.

**Results:** Results: The metacercaria were identified only from the specimens belonging to *Cyprinus carpio* with the prevalence of 5%. The morphologic features of isolated *C. complanatum* metacercariae were as follows: narrowed around the ventral sucker, the small Oral sucker, well developed Oral collar, the extended intestinal ceca until ventral sucker, triangular testes, the well-developed cirrus sac that opens into the genital pore and irregular ovary. The sequencing of amplified fragments confirmed morphological study as all metacercariae was belonging to *C. complanatum* with homology of 100% with other sequences of *C. complanatum* available in the NCBI database (accession no: OP984764).

**Conclusion:** The larva of *C. complanatum* can cause pharyngitis or laryngitis in human if they were consumed. However, in different part of the world especially in Asian countries where it is common to eat raw fish such as sushi, people may become infected with this parasite.

**Keywords:** *Clinostomum complanatum*, *Cyprinus carpio*

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