

New Records And Molecular Identification Of *Leptoplana Tremellaris* (Müller OF, 1773) Orsted, 1843 (Platyhelminthes, Rhabditophora, Polycladida) From The Rocky Shore Of Pakistan

Farah Naz¹, Noor Us Saheer²

¹Institute of Marine Science, University of Karachi, Karachi 75270, Pakistan

²Centre of Excellence in Marine Biology, University of Karachi, Karachi, Pakistan

*E-mail: noorusaheer@yahoo.com

ABSTRACT

Introduction: Turbellarians are abundant species found in marine and brackish waters (Faubel and Noreña 2001), the initial and detailed review on worldwide species of Turbellarian was described by Graff (1904-08). Tyler et al., (2014) reported *L. tremellaris* as a European register fauna of marines, Pawar and Al-Tawaha (2017) reported *L. tremellaris* from Uran coast, Navi Mumbai, Arabian Sea. A published checklist of worms reported from Pakistani marine waters was described by Kazmi and Naushaba (2013) and later Kazmi (2016) also identified ten species more as new records of polycladids in marine fauna of Pakistan that belong to family Pseudocerotidae.

Materials and Methods: The specimen of *L. tremellaris* collected from coastal waters rocky ledge of Buleji (N 24° 51' 571" E 66° 52' 157") Pakistan and morphological identification of *L. tremellaris* was based on Gammoudi et al. (2017). For molecular identification, the genomic DNA (gDNA) was extracted from the mussels tissues by using Qiagen's DNeasy blood and tissue kit. An applied Bio-system 2720 thermal cycler was used for the complete Polymerase Chain Reaction. A newly procured sequence data were deposited to the GenBank after examining the homology-done through blast 2.2.26+ (Zhang et al 2000).

Results: The specimens (n=3) were collected from Buleji rocky ledge Karachi Pakistan by direct hand pick. The average length was 25 mm and the width was 10 mm. the fresh specimen colour was light ash brown, delicate, deltoid, oval shaped elongated body along with margins wavy, light ash brown color, luminous, with dorsal brownish shade. Tentacles absent, tentacular eyes arranged in two rounded clusters.

In the present study, the molecular identification of *L. tremellaris* based on the coding gene of mt DNA Cytochrome Oxidase 1(COI), the genetic similarity searched through BLASTn. DNA sequences submitted to GenBank and the accession number (MN 396901.1, MN396902.1, MN396903.1) were received for each isolate.

Conclusion: Based on based on morphological and molecular characters, *L. tremellaris* reported as a new record from the marine coastal waters of Pakistan.

REFERENCES

1. Faubel, A. Noreña, C. Turbellaria, in: Costello, M.J. et al. (Ed.) European register of marine species: a checklist of the marine species in Europe and a bibliography of guides to their identification. Collection Patrimoines Naturels, 50 (2001).123-136.
2. Gammoudi, Mehrez, et al. "Updated inventory and distribution of free-living flatworms from Tunisian waters." Zootaxa 4263.1 (2017): 120-138.

3. Graff LV. Turbellaria. In: Dr. H.G. Bronns Klassen und Ordnung des Tierreichs. Bd IV. Vermes. Abt. 1. c. Turbellaria I. Abteilung: Acoela und Rhabdocoelida. Winter'sche Verlags buchhandlung Leipzig (1904-08) I 733-2599.
4. Kazmi, Q. B., and R. Naushaba. "Checklist of marine worms reported from Pakistani marine waters." *Pakistan Journal of Nematology*. 31.2 (2013): 187-280.
5. Kazmi, Quddusi B. "Short Notes on Marine Polycladids (Platyhelminthes, Turbellaria, Polycladida) from Karachi Coast." <http://dx.doi.org/10.20431/2454-941X.0202005> www.arcjournals.org (2016) Page | 23.
6. Pawar, Prabhakar R., et al. "Checklist of benthic marine macrophytes and macrofauna from Uran coast, Navi Mumbai, off the Arabian Sea." *Advances in Environmental Biology* 11.6 (2017): 68-79. <http://www.aensiweb.com/AEB>.
7. Tyler S, et al. (comp.) Turbellarian taxonomic database. (2006-2020) Version 1.7 <http://turbellaria.umaine.edu>
8. Zheng, Z., et al. "A greedy algorithm for aligning DNA sequences", *J Comput Biol* 2000; 7. (2000): 203-214.