

## **Parasitological Study and Its Role in Fisheries Management and Stock Assessment of Boops boops (Lineaues, 1758) along the Tunisian Coast**

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**Abstract :** The bogue, Boops boops is an economically important fishery resource and commonly captured in the Mediterranean, and its diversity in parasites has been used as a tool to differentiate between stocks along with Tunisia since it is widely acceptable in fisheries management. In this study, a total of 90 fish are investigated from three localities off Tunisia, including Kelibia, Mahdia, and Zarzis. Fifteen species of parasites totaling 1270 individuals were harvested from B. boops, whereas ten parasites were used as biological tags. Based on Mahalanobis distance, each parasite species shows a great importance in the discrimination between groups. Tetrphyllidea larvae are the most influential parasites in determining the position of samples belonging to Kelibia. Monogenean species and Hysterothylacium sp. are the most important species for determining the position of samples from Mahdia. Specimens from Zarzis are characterized by the absence of the four Monogenean species and the Tetrphyllidea larvae. Parasites allocate B. boops population correctly to their origin communities with an accuracy of 83.3%. These results were corroborated by the discriminant analyses, highlighted the presence of three stocks, and improved that the parasitological method can be considered as a reliable key to provide imperative information for discriminating among B. boops stocks in Tunisian waters.

**Keywords :** biological marker, Boops boops, parasite, population structure

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