Species

First record of the parasite *Rocinela signata* (*Isopoda: Aegidae*) on the gills of the Blue spotted cornet fish *Fistularia commersonii* (*Syngnathiformes*: *Fistulariidae*) in marine water of Syria

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ABSTRACT

During the implementation of our current research entitled "Study of reproductive biology, food spectrum of the blue spotted cornet fish *Fistularia commersonii* (Rüppell, 1838) & *Chromis chromis* (Linnaeus, 1758) in Syrian marine waters (Governorate Lattakia)" which began on 20/10/2022, we found the parasite *Rocinela signata* on the gills of the fish *Fistularia commersonii* caught on 29-11-2022, with Bottom Trowel nets, in the area of (Ras Al-Basit 49°.25`50 N, 15°.14 `50 E.) Lattakia. As a result of a laboratory examination and comparison with scientific references, we identified the species of parasite *R.signata*, which was recorded for the first time in Syrian marine waters - Lattakia Governorate and the eastern Mediterranean coast.

Keywords: *Rocinela signata*, *Isopoda*, *Fistularia commersonii*, Syrian marine waters.

1. INTRODUCTION

The fish *Fistularia commersonii* has appeared in Syrian marine waters since 2002 and was scientifically recorded for the first time on the Syrian coast by (Galiya, 2003; Othman et al., 2022). It is a migratory fish from the Red Sea via the Suez Canal to the eastern Mediterranean and the Syrian coast. Furthermore, it is characterized by its original habitat being the Indian and Pacific Oceans, and it spread in the Red Sea and from there to the eastern Mediterranean coast. Not only that, but it is a predatory fish that feeds on small fish. It hunts at depths up to 200 m and more. Likewise, it adapted to its new environment in the eastern Mediterranean, with lengths reaching up to 200 cm (Lakkis and Sabour, 2014). The order Isopods belongs to the *Crustacae*

subclass, and it is a widespread order whose members are distributed throughout the world and constitute a crucial part of the global marine fauna.

Due to its role in the marine food chain Riseman and Brusca, (2002), Members of the family *Aegidae* parasite on bony and cartilaginous fish, such as *Cymothoids* (Ramdane and Trilles, 2008). It includes five genera and about 107 documented species (Brusca, 1983). *R.signata* is found in its free form at shallow depths of the ocean or on fish as parasites. This parasite distributes widely in the western Atlantic Ocean, and most records appeared in various countries such as India & Brazil in coastal areas (Brusca and France, 1992). It parasites on the oral cavity, the gills, and the internal membranes of the organs (Moreira, 1977; Cavalcanti et al., 2012). It causes massive pain to the host as it affects its activity and external appearance, which reduces its economic importance (Ravichandran et al., 2010).

2.MATERIALS AND METHODS

Fish samples were collected from the marine waters of the coast of Lattakia Governorate (eastern Mediterranean), Ras Al-Basit (49°.25`50 N, 15°.14 `50 E) from 20/10/2022 to 20/10/2023, using Bottom Trowel nets. To study the reproductive biology and food spectrum of the Fistularia commersonii and Chromis chromis in Syrian marine waters (Lattakia Governorate). This crustacean parasite was found on the gills of F.commersonii caught on 29/11/2022, using keys provided by, (Menzies and Kruczynski, 1983). Its species was determined, and it had been described after taking photos of it under a magnifying glass (NTB-3A), After fixing it on a slide and studying its shape and the composition of its body and appendages (Figure 1). The parasite kept with 4% formalin in a plastic can with scientific name, place, date of collection, host name was written in the postgraduate laboratory - Department of Zoology - Faculty of Science - Tishreen University.

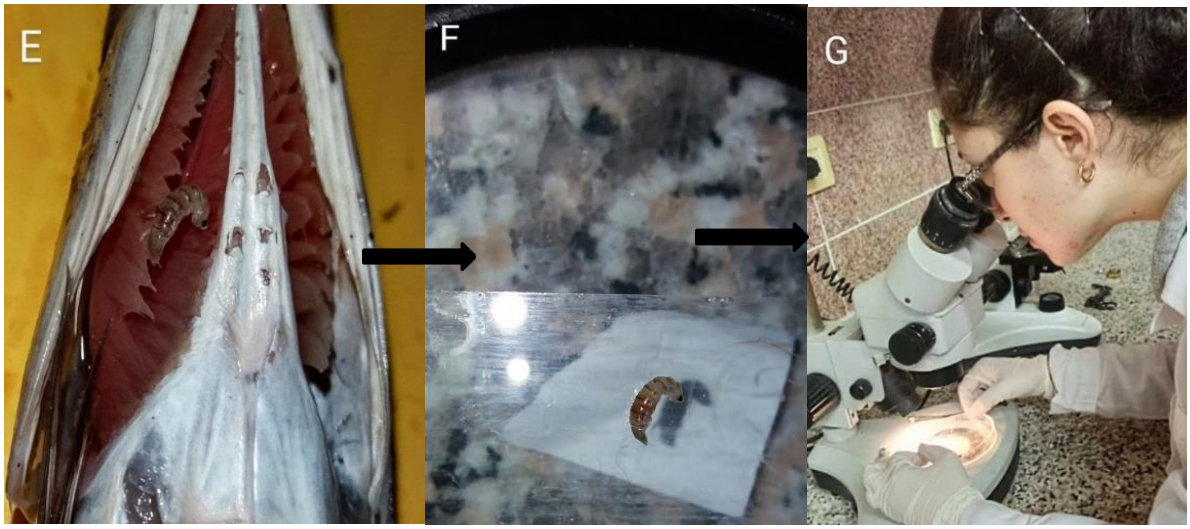

Figure 1E Observation of the parasite *R.signata* on the gills of the fish *F.commersonii*, (F) Fixed the parasite on a glass slide to examine it under a magnifying glass, (G) Examined the parasite under a magnifying glass (NTB-3A) to determine the species according to the appropriate taxonomic keys.

3.RESULTS AND DISCUSSIONS

The parasite *R.signata* was found on the gills of only one of 33 individuals had studied the fish *F.commersonii.* The lengths ranged during the research period from 52 cm to 97.4 cm (Figure 2). The parasite *R.signata* is characterized by the body being slightly convex (Figure 3), the cephalothorax being obvious, the head being linked to the thorax, and the eyes being large. The thorax includes basal plates and eight thoracic segments. The fifth-sixth-seventh thoracic segments are the widest. The abdomen consists of five segments with seven pairs of legs. The antennae are divided into 15 parts, the fourth part of the horns being the longest, in addition to smaller antennae consisting of seven parts (Figure 4). The first part is the most substantial, while the third part is the longest. The flagellum consists of four parts: the inner end of the first piece consists of feathery hairs, and the inner face is close to the inner end of the second

segment, which in turn consists of five feathery hairs: three hairs are longer than the rest. The telson of this crustacean shaped like a "w" on its dorsal face. These results have coincided with data obtained by (Alves et al., 2019).

Figure 2 The host *Fistularia commersonii*, caught from the Coast of Lattakia province (29-11-2022), Western Syria. TL:73cm, TW:145g

Figure 3 The parasite *Rocinela signata* from the gills of *Fistularia commersonii*, western Syria. (a) Left lateral view, (b) Right lateral view, (c) Ventral view, TL:7 mm Western Syria.

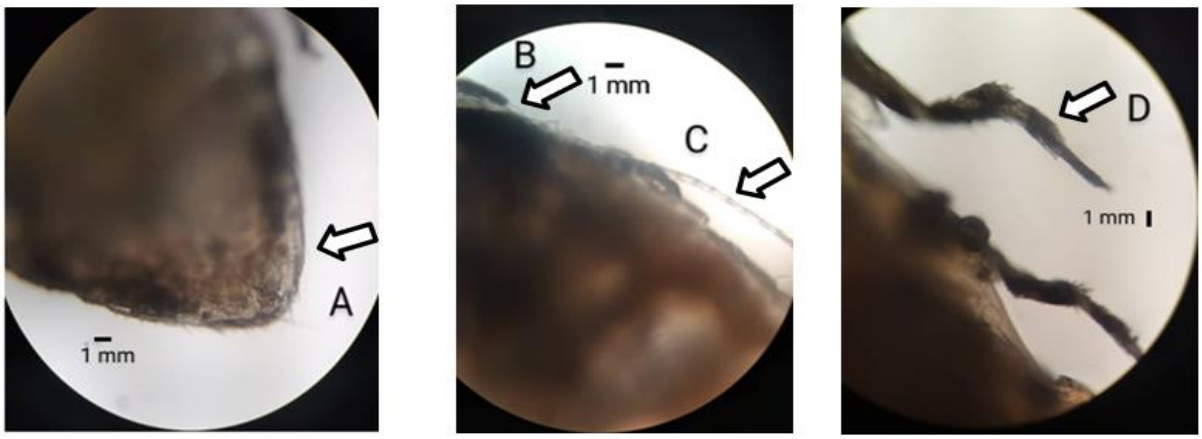

Figure 4 (A) The terminal segment of the body (Telson), (B) Antellunae, TL:1.5mm, (C) Antenna, TL:3mm, (D) lateral appendages of the last abdominal segment, TL:4mm

4.CONCLUSION

Research results showed the presence of the parasite R.signata on the surface of the gills of F.commersonii. indicates the presence of a parasitic infection affecting F.commersonii in the marine waters of the coast of Lattakia. For the first time, F.commersonii been infected with the parasite R.signata, which has been recorded in Syrian marine waters and the eastern Mediterranean.

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Author Contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Nour Ghassan Baddour, Mohamad Younis Galiya, Waad George Sabour and Taghrid Masoud Layka which the first draft of the manuscript was written by Nour Ghassan Baddour and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Ethical approval

The Animal ethical guidelines are followed in the study for species observation, identification & experimentation.

Informed consent

Not applicable.

Conflicts of interests

The authors declare that there are no conflicts of interests.

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Data and materials availability

All data associated with this study are present in the paper.

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