Acanthopagrus latus (Houttuyn, 1782) (Perciformes: Sparidae) a New Host for the Trematode Erilepturus hamati (Yamaguti, 1934) Manter, 1947 in Iraqi Marine Waters.

Nadirah K. Al-Salim¹ and Abdul Amer R. Jassim²

1 Department of Fisheries and Marine Resources, College of Agriculture, University of Basrah, Basrah, Iraq; 2 Department of Aquaculture, Marine Science Center, University of Basrah, Basrah, Iraq

Abstract. During the period from March 2011 to January 2012, a total of 146 specimens of the yellowfin seabream *Acanthopagrus latus* were collected from Iraqi coastal waters of the Arabian Gulf. The trematode *Erilepturus hamati* was recorded for the second time and *A. latus* considered to be a new host record in Iraq. The infection occurred in March, April, August and December 2011. The highest prevalence of infection was in April and the lowest prevalence in December 2011. While the highest intensity of infection was during March and the lowest was during August.

Key words: fish parasite, Acanthopagrus latus, Trematoda, Erilepturus hamati, Arabian Gulf, Iraq.

Introduction

The yellowfin seabream *Acanthopagrus latus* is one of the more important species in Iraqi coastal waters. This fish belong to the family Sparidae and its distribution is in South Japan, South-East Taiwan, North-East Australia and Philippines (10). Member of this family are primarily coastal fishes with about 110 species and 33 genera (15). It includes many species of commercial and recreational importance and some are used for aquaculture (14, 11). *A. latus* is a tropical, marine commercial fish distributed in the Indo-Pacific, from the Arabian Gulf and along the coasts of India to the Philippines, north to Japan, and south to Australia (8). *A. latus* has a commercial value and hence there is a continuous interest with this fish.

The trematode fauna of *A. latus* in the Iraqi marine waters is included only with two articles:Al-Daraji (1) who detected the trematode *Opistholebes* sp. from Khor Al-Zubair and Al-Daraji *et al.* (2) who detected *Paradiscogaster farooqii* from Kor Abdullah.

Materials and Methods

Fish were caught by using a drift gill net in Iraqi coastal waters of the Arabian Gulf (29°40.809'N, 48°44.236'E; 29°46.782'N, 48°45.658'E; 29°44.445'N, 48°46.872'E) from March 2011 to January 2012. A total of 146 specimens of *A. latus* were transported to la-

boratory using a plastic box and were stored in freezer until examination. The total weight and length of the inspected fishes were measured (37-972 g) (13-36 cm) respectively. The parasites were transferred to a small petri dish. The water was removed from the slides and the specimens were fixed in AFA and stored in 70% ethyl alcohol. For the examination of the parasites, it was compressed beneath coverslip directly and fixed with AFA and stained by Semichon's Acetocarmine staining technique (12). Drawings were made by the aid of a camera Lucida and the measurements were given in micrometers.

Results and Discussion

Ten out of 146 examined A. latus were infected with the trematodes Erilepturus hamati. As this parasite was previously reported only from Eleutheronema tetradactylum, Otolithes ruber and Pseudorhombus arsius from Khor Al-Ummaia (3), so, A. latus of the present study is considered as a new host record for E. hamati in Iraq. Hence, the following description and measurements are given for this parasite. Then give the full name and authority of this parasite in a new line followed by the description and measurements, type host, infection site, locality, mean prevalence of infection and mean intensity of infection. After that, in a new paragraph give the information on the infection (prevalence and intensity) and then give the discussion without giving a title for the discussion.

Type host: Acanthopagrus latus

Locality: Arabian Gulf, off Iraq

Infection site: Stomach and intestine **Mean Prevalence of infection:** 6.8%

Intensity of infection: 19

The infection occurred in March, April, August and December 2011. The highest prevalence of infection was 23.1% in April 2011 and the lowest prevalence in December 2011, while the highest intensity 143 in March 2011 and the lowest intensity was 1 in August 2011 (Table 1).

Description (based on two flattened specimens): Hemiuridae. Body elongated, length 2760-2800 (2780) and a maximum width of 560-740 (650) in the region of the ventral sucker, ecsoma, protruding out of the body 150.1-300.1 (225.1) in length, oral sucker was subterminal, with a length 150.1-189.6 (169.9) a width of 158-205.4 (181.7). Ventral sucker was large and located nearly in the mid of the body, with a diameter of long of 252.8-458.2 (355.5). Pharynx was muscular and measuring 51-60.2 (55.9) length and 77.4-86 (81.7) the wide. Oseophagus short, 43-60.2 (51.6) in length and 34 in width. Intestinal caeca simple and stretching along the body and end just before the end of the ecsoma. Testes were ovoid in the shape behind the ventral sucker, anterior testis 158-189.6 (173.8) and posterior testis 151.1-229.1 (190.1). Ovary was oval and located behind the tests, 151.1-237

(194) in long and 150-165.9 (158) in wide. Uterus twists extend from the first third of the body transversely and vertically and covering most of the surface to the end of the second third of body behind the testes. Vitelline glands digitiform in group and close to each other at the end of the body. Eggs ovoid and measuring 27.7 in long and 11.9 in wide.

Manter and Pritchard (13) considered the genus *Uterovesiculurus* Woolcock, 1935 as a synonym for *Erilepturus*. Yamaguti (16) disagreed with this result and considered *Uterovesiculurus* as a different genus and distinct from *Erilepturus* by the terminal swelling of the uterus. Gibson and Bray (9) agreed with Manter and Pritchard (13) considered the species *Ectenurus hamati* Yamaguti, 1934 and *U. hamati* (Yamaguti, 1934) a synonym to *Erilepturus hamati*.

Al-Daraji (1) recorded both *U. gazzi* Ahmed, 1980 and *Uterovisicularis* sp. from three fish species in Khor Al-Zubair. Bannai (6) recorded *U. hamati* from *Otolithus ruber* as well as two unidentified species of the same genus from *Johnius belangri* from Khor Abdulla. Ali (3) described *E. hamati* for the first time in Iraq from *Eletheronema tetradactylum*, *Pseudorhombus arsius* and *O. ruber* in Khor Al- Ummaia and compared this species with others and found it similar to those were recorded by Al-Yamani and Nahhas (5), Bray *et al.* (7) and Al-Kuwari *et al.* (4). The present species is similar in the description and measurements to those recorded by Ali (3) and considered as the second time in Iraq and fifth time in Arabian Gulf and the *A. Latus* is considered a new host for this species.



Fig. (1): *Erilepturus hamati*, ventral view. Scale bar = 450μ .

Table (1): The prevalence of infection and Intensity of *Erilepturus hamate*.

Month	No. of examined fish	No. of infected fish	Prevalence (%)	Intensity
March 2011	13	1	7.7	143
April	26	6	23.1	4.5
May	12	0	0	0
June	3	0	0	0
July	15	0	0	0
August	10	2	20	1
September	10	0	0	0
October	10	0	0	0
November	10	0	0	0
December	20	1	5	13
January 2012	17	0	0	0
Total	146	10	6.9	19

References

- 1- Al-Daraji, S.A.M. (1995). Taxonomical and ecological studies on the metazoan parasites of some marine fishes of Khor Al-Zubiar estuary, north-west of the Arabian Gulf. ph.D. Thesis. Coll. Agric., Univ. Basrah:182 pp.
- 2- Al-Daraji, S.A.M.; Bannai, M.A.A. & Abbas, A.A.K. (2010). Some parasites of the yellow-finned sea bream *Acanthopagrus latus* (Houttuyn, 1782) in the Iraqi marin waters. Iraqi J. Aquacult. 7(2): 115-122.
- 3- Ali, A.H. (2008). Taxonomy of helminth parasites in some marine and freshwater fishes and the relation of some of its with their final hosts in southern of Iraq. Ph. D. Thesis, Coll. Agric., Univ. Basrah: 336pp. (In Arabic).

- 4- Al-Hawari, K.S.R.; Kardousha, M.F. & Ramadan, M.M. (2001). Biodiversity of helminth parasites of fishes Arabian Gulf with special reference to digenetic trematodes. Qatar Univ. Sci. J., 16 (1): 141-153.
- 5- Al-yamani, F. and Nahhas, F.M. (1981). Digenetic trematodes of marine fishes from the Kuwait coast of the Arabian Gulf. Kuw. Bull. Mar. Scie., 3: 1-22.
- 6- Bannai, M.A.-A. (2002). Parasites of some marine fishes of Khor Abdulla, north-west Arabian Gulf. M. Sc. Thesis, Coll. Educ., Univ. Basrah: 103pp. (In Arabic).
- 7- Bray, R.A.; Cribb, T.H. & Barker, S.C. (1993). Hemiuridae (Digenea) from marine fishes of the Great Barrier Reef, Queensland Australia. Syst. Parasitol., 25: 37-62
- 8- Froese R. & Pauly D. (Eds.) (2012). FishBase. World Wide Web electronic publication, www.fishbase.org, version 03/2012
- 9-Gibson, D.I. & Bray, R.A. (1979). The Hemiuroidea, terminology, systematics and evolution. Bull. British Mus., Zool. Ser. 36, No. 2: 35-146.
- 10-Hayashi, M. (1993). Sparidae. *In*: Nakabot, T. (Ed.) Fishes of Japan with practical key to the species. Tokai Univ. Press. Tokyo. XXXIV+147pp.
- 11-Ingram, B.A.; McKinnon, L.J. & Gooley, G.J. (2002). Growth and survival of selected aquatic animals in two saline groundwater evaporation basins: an Australian case study. Aquacult. Res., 33: 425-436.
- 12-Lasee, B. (2006). National wild fish health survey: laboratory procedures manual . US Fish and Wildlife Service publ.
- 13-Manter, H.W. & Pritchard, M. H. (1960). Some hemiurid trematodes from Hawaiian fishes, Proc. Heminthol. Soc. Wash., 27: 87-102.
- 14-Kailola, PJ; Williams M.J.; Stewart, P.C.; Riechelt, R.E.; McNee, A. & Grieve, C. (1993). Australian fisheries resources. Department of Primary Industries and Energy and the Fisheries Research and Development Corporation: Canberra, 422pp.
- 15-Smith, J.L.B. & Smith, M.M. (1986) Family No. 183: Sparidae. In: Smith, M.M. & Heemstra, P.C. (eds.), Smiths' Sea Fishes. Macmillan, Johannesburg, pp. 580–594.
- 16-Yamaguti, S. (1971). Synopsis of digenetic trematodes of vertebrate, vol. 1 and 2. Keigaku Publ., Tokyo, 1074pp.

سمكة الشانك (Houttuyn, 1782) مضيفا جديدا للمخرّم Acanthopagrus latus (Houttuyn, 1782) في المياه البحرية Erilepturus hamati (Yamaguti, 1934) Manter, 1947 العراقية

نادرة كاظم السالم¹ وعبدالامير رحيم جاسم²

1 قسم الأسماك والثروة البحرية، كلية الزراعة، جامعة البصرة، البصرة، العراق؛ 2 قسم الإستزراع المائي، مركز علوم البحار، جامعة البصرة، البصرة، العراق

الخلاصة. أثناء الفترة الممتدة من آذار 2011 إلى كانون الثاني 2012 جمعت 146 عينة من أسماك الشانك Acanthopagrus latus من المياه البحرية الساحلية العراق وعدَّت سمكة الشانك البحرية الساحلية العراقية في العراق وعدَّت سمكة الشانك مضيفا جديدا لهذا الطفيلي. حدثت الإصابة في شهور آذار ونيسان وآب وكانون الأول 2011. سجلت أعلى نسبة إصابة في شهر نيسان وأدنى نسبة إصابة في شهر كانون الأول 2011.