

УДК 619:616.

DOI:

Поступила в редакцию 09.02.2017

Принята в печать 12.04.2017

Для цитирования:

For citation:

Essa T. Mohamed Case Report: clinical sings lesions of Black Bag Disease of Sarcotaces Sp. (Copepoda, Philichthyidae) Infestation cropper fish Epinephelus tauvina in Northwest Arabian Gulf // Russian Journal of Parasitology, 2017, V. 40, Iss. 2, pp. .

Russian Journal of Parasitology, 2017, V. 40, Iss.2

DOI:

Received 09.02.2017

Accepted 12.04.2017

**CASE REPORT: CLINICAL SINGS LESIONS OF BLACK BAG DISEASE OF
SARCOTACES SPP. (COPEPODA, PHILICHTHYIDAE) INFESTATION
CROPPER FISH EPINEPHELUS TAUVINA IN NORTHWEST ARABIAN
GULF**

Essa T. Mohamed

Department of Marine invertebrate and marine Vertebrate, Marine Science Center,
University of Basra, Iraq.

Abstract:

Sarcotaces sp. (copepods), which infest and some the clinical sings lesions in cropper fish *Epinephelus tauvina* were register in Northwest Arabian Gulf. In March and June 2016, a total of 8 fish freshly collected from Al-Fao market South of Al-Basra City, northwest Arabian Gulf, Iraq. One of fish only infested with *Sarcotaces sp.* infested with Black Bag Disease with prevalence percentage 12.5 % Fish infected with *Sarcotaces sp.* showed no any clinical abnormalities and appeared to be completely normal. A new host and new geographical distribution for this copepod parasite in the fish of the Iraqi marine waters of the Arabian Gulf

Key words: *Sarcotaces sp.*, Copepod, Marine Fish, Arabian Gulf, Epinephelus, Iraq.

**ОПИСАНИЕ СЛУЧАЯ: КЛИНИЧЕСКИЕ ПРИЗНАКИ ЧЕРНИЛЬНОЙ
БОЛЕЗНИ РЫБ BLACK BAG DISEASE, ВЫЗВАННОЙ
ПАРАЗИТИЧЕСКИМИ КОПЕПОДАМИ SARCOTACES SP. (COPEPODA,
PHILICHTHYIDAE) У РЫБ EPINEPHELUS TAUVINA), ОБИТАЮЩИХ В
СЕВЕРО-ЗАПАДНОЙ ЧАСТИ АРАВИЙСКОГО ЗАЛИВА.**

Эсса Т. Мохамед

Морской научный центр, Отделение морской биологии, Кафедра морских беспозвоночных и позвоночных животных, Университет Басры, Басра, Ирак,

Реферат

В водах северо-западной части Аравийского залива в марте и июне 2016 года были зарегистрированы паразиты *Sarcotaces sp.* (копеподы), вызывающие заражение рыб, а также обнаружены клинические признаки этого заболевания у рыб *Epinephelus tauvina*. На рынке Аль-Фао, расположенного в южной части города Аль-Басра (северо-западная часть Аравийского залива, Ирак), были взяты для исследования 8 свежих рыб. Лишь одна из отобранных особей была

заражена *Sarcotaces* sp. (Black Bag Disease); интенсивность заражения составила 12.5 %. У рыбы, зараженной копеподом *Sarcotaces* sp., не было обнаружено никаких клинических проявлений аномалий и, судя по всему, она была абсолютно нормальной. Итак, был установлен новый хозяин и новый ареал обитания этого паразитирующего копепода – воды северо-западной части Аравийского залива (Ирак).

Ключевые слова: *Sarcotaces* sp., копепод, морская рыба, Аравийский залив, *Epinephelus tauvina*, Ирак.

Introduction

The family Philichthyidae Vogt, 1877 (Copepoda, Poecilostomatoida) comprises copepods that live in the pores of lateral lines and mucous canals of the mandibular and/or preopercular bones and cephalic canal system of fish hosts, At these sites, the copepods larvae penetrate their hosts and the females remain at the site of penetration for the rest of their lives. Males may enter the same site or go out when necessary, and are rarely found in the canal with the females. While in the host, the female undergoes a metamorphosis; characterized by the development of processes on some of the body segments, the thoracic legs in particular becoming diminutive (Boxshall & Mont, 1997; Boxshall & Halsey, 2004). The crustaceans can be harmful by its presence and the number of the parasites which is recognizable by black fluid of the parasite Eissa, I.A.M., (2002). The copepod *Sarcotaces* are usually found in galls, not visible externally (Woo, P.T.K., 1995). The aim of this study was the detection of the prevalence of *Sarcotaces* sp. in cropper fish form Northwest Arabian Gulf of Iraq.

Materials and methods

Parasitic copepod was carried out while the fish were fresh. Skin, fins, abdominal cavity, dorsal and lateral musculature was investigated macroscopically using magnifying lens and also with the help of a Stereomicroscope under 6 X magnification for the presence of copepods cysts of *Epinephelus* fishes. Fishes were collected from Al-Fao market South of Al-Basra City, northwest Arabian Gulf, Iraq. During March and June 2016. fishes were transported to the laboratory of Marine Science Center. The abdominal cavity of each fish was open and the intestine was separated from the other visceral organs and placed in a Petri-dish containing physiological saline. For each host specimen, the spiral intestine was removed, opened with a longitudinal incision, fixed in 10% formalin buffered with seawater, and transferred to 70% ethanol for storage.

Encysted *Sarcotaces* parasite were removed and put in Petri dish. The cyst was opened and preserved in 4% formalin for microscopic examination. Photographs were down using a Sony camera tube attached microscope.

Results and discussion

***Sarcotaces* sp., juvenile's fig 1**

Class: Crustacea

Order: Poecilostomatoida

Family: Philichthyidae Vogt, 1877

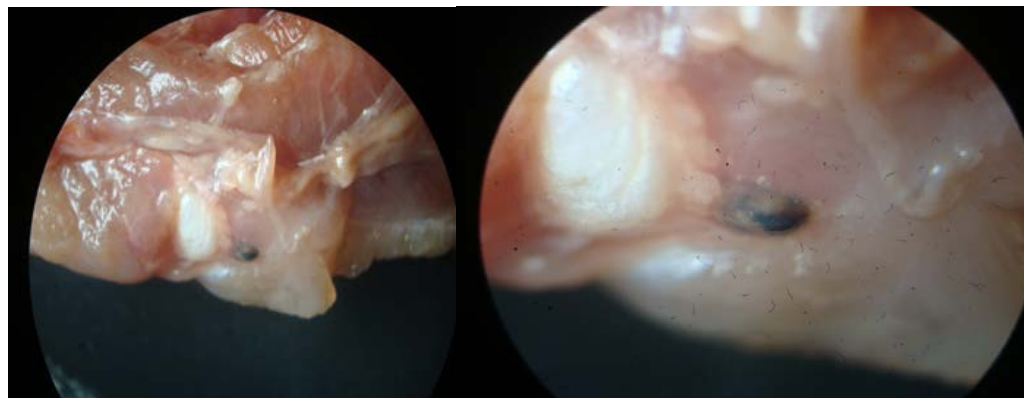
Genus: *Sarcotaces* Olsson, 1872

Three cysts located within the flesh of on dead fish infected of one specimen's, directly beneath the skin in the same level of body surfaces wollen in the dorsal musculature or near the vent.

Cysts were pyriform in shape and gray in color (Fig.1). The juvenile was elongated, slender in shape, and flattened dorso-ventrally. Body segments are definable only by lateral notches. The head is small, nearly squarish and wide than long and separated

from the thorax by clearly defined constriction. The first three thoracic segments are wider than the rest of the body.

Figure 1: photograph showing *Epinephelus tauvina* musculature infected with *Sarcotaces* spp.



Black bag disease, a disease due to *Sarcotaces* (Copepoda, Philichthyidae) infection, has a worldwide distribution, from abyssal depths to tropical reefs (Amlacher, E., 1970; Boxshall G.A. and S.H. Halsey, 2004 ; Moser, M., L. Haldorson and J. Field, 1985).

The genus *Sarcotaces* has far been known to have four species. These are *S. verrucosus* (Olsson, 1872), parasitic on *Acanthurus* sp. from the West Indies, *S. arcticus* (Collett, 1874), parasitic on *Molva abyssorum* from Norway, *S. pacificus* (Komai, 1924), parasitic on *Antennarius* sp., and *S. komaii* (Shiino, 1953), parasitic on *Peristedion amiscus*. The last species of *Sarcotaces* sp. (Yamaguti, 1963), taken from *Semicossyphus reticulata* belong to the species found in Japan. The Genus *Sarcotaces* is a bizarre copepods cause cysts formation was first reported by Heegaard, 1947 which measures several centimeters in length in the muscle under the skin.

Kuitunen-Ekbaum, (1949) and Roberts *et al.*, (1988) who reported that, the cysts are exposed when fish are filleted and cut the cysts gall. The cyst of *Sarcotaces* is pyriform in shape, gray in color and release copious black fluid over the fillets. Hosts of these parasites include members of the families Moridae, Macrouridae, Scorpaenidae, Antennariidae, Triglidae, Acanthuridae and Serranidae (Izawa, 1974).

In this study, *Sarcotaces* sp. was recovered from cysts on the flank musculature, beneath the skin of *Epinephelus tauvina* (Family: Serranidae). A new host and geographical record for *Sarcotaces* is presented, being the first record of *Sarcotaces* sp. in the Iraqi marine fish species of the Arabian Gulf.

References

- Amlacher, E.1958. Ein seltener und ein haufigerer parasitischer Krebs an Meeresfischen. Dtsch. Fisch. Ztg. 3: 75-77.
- Amlacher, E., 1961. Taschenbuch der OCEAN, July 28-August 5, 1986. Canadian MS Fischkrankheiten fur Fischereibiologen, Tierarzte, Report of Fisheries and Aquatic Sciences, 1981. Fischzuchterund Aquarianer, VEB verlag Fischer, 29.
- Conzalez Raul, A. and Ruben D. Tanzola, 2000. On Jena, pp: 66-73.
- The presence of *Sarcotaces verrucosus* (Copepoda).

- Boxshall G.A. And S.H.Halsey, 2004 'An Introduction to Copepod Diversity' (The Ray Society: London).
- Dollfus, R., 1928. Un hote nouveau pour *Sarcotaces verrucosus*, Olsson, 1872 (Copepoda Parasite), Bulletin du Museum national d'Histoire Naturelle, Paris, 34: 341-345.
- Eissa, I.A.M., (2002). Parasitic fish diseases in Egypt. El-Nahda El-Arabia Publisher, 32 Abd El-Khalek, Tharwat Street, Cairo, Egypt.
- Kuitunen-Ekbaum, E., 1949. The occurrence of *Sarcotaces* in Canada. Journal of Fisheries Research Board of Canada, 7: 505-512.
- Komai, T., 1924. Notes on *Sarcotaces pacificus* n. sp. with remarks on its systematic position. Mem. Coll. Sc. Kyoto Imp. Univ. S. B.1, 13(3): 273-83.
- Roberts, R.J., 2012. Fish Pathology Fourth Ed., W.B.Saunders. An imprint of Harcourt Publishers.
- Heegaard, P., 1947. Discussion of the genus *Sarcotaces* (Copepoda) with a description of the first known male of the genus. Kungl. fysiogr. Sallsk. Lund Forhandl. 17: 122-129 .
- Kabata, Z., 1970. Crustacea as enemies of fishes. In salmon de mar *Pseudoperca semifasciata* (Cuvier, Diseases of fishes. Edited by S. F. Snieszko and H. R. 1829) (Pinguipedidae) en el Golfo San Matias, Axelrod. T. F. H. Publication. New Jersey, pp.: 3-171. Patagonia, Argentina, Tesis Doctoral, Universidad.
- Moser, M., 1977. *Sarcotaces* sp. (Copepoda) on the in the Southwest Atlantic Acta Parasitologica, head of *Physiculus rastrelliger* frame Salvador. 45 (4): 345-349. Canadian Journal of Zoology, 55: 258-260.
- Izawa, K., 1974. *Sarcotaces*, a genus of parasitic copepod parasites of deep-sea fishes. Journal of copepod (Cyclopoida: Philichthyidae), found on Marine Systems, 15: 215-223.
- Roberts, R.J., D.J Macintosh, K.Tonguthai National Del Sur.S. Boonyaratpalin, N. Tayaputch, M.J. Phillips and 28. Stanley, R. 1988. Cruise details and biological.
- S.D. Millar, 1986. Field and Laboratory Investigations observations from rockfish charters to the west coast into Ulcerative Fish Diseases in the Asia-Pacific of Vancouver Island aboard the F/V HOWE BAY. Region. Bangkok: F.A.O. July 24-31 and August 24-29, 1985 and F/V ARCTIC
- Eissa, I.A.M., 2002. Parasitic fish diseases in Egypt. El-Nahda El-Arabia Publisher, 32 Abd El-Khalek, Tharwat Street, Cairo, Egypt.
- Woo, P.T.K., 1995. Fish diseases and disorders. CAB, Int. Wallingford, Oxon, UK.

© 2017 The Author(s). Published by All-Russian Scientific Research Institute of Fundamental and Applied Parasitology of Animals and Plants named after K.I. Skryabin. This is an open access article under the Agreement of 02.07.2014 (Russian Science Citation Index (RSCI) http://elibrary.ru/projects/citation/cit_index.asp) and the Agreement of 12.06.2014 (CA-BI.org/Human Sciences section: <http://www.cabi.org/Uploads/CABI/publishing/fulltext-products/cabi-fulltext-material-from-journals-by-subject-area.pdf>)