First Report of Tristomella laevis (Monogenea, Capsalidae) from Aegean Sea in Turkey

Article *in* Kafkas Universitesi Veteriner Fakultesi Dergisi · June 2010

CITATIONS
3

READS
192

3 authors:

Sevki Kayis
Recep Tayyip Erdoğan Üniversitesi
58 PUBLICATIONS **827** CITATIONS
SEE PROFILE

Ilhan Altinok
Karadeniz Technical University
99 PUBLICATIONS **2,824** CITATIONS
SEE PROFILE

Fikri Balta
Recep Tayyip Erdoğan Üniversitesi
68 PUBLICATIONS **515** CITATIONS
SEE PROFILE

Kafkas Univ Vet Fak Derg
16 (Suppl-B): S373-S375, 2010

SHORT COMMUNICATION

First Report of *Tristomella laevis* (Monogenea, Capsalidae) from Aegean Sea in Turkey

Şevki KAYIŞ * İlhan ALTINOK ** Fikri BALTA * Haydar Birol İMRE *

* Rize University, Faculty of Fisheries TR-53100 Rize - TURKEY
** Karadeniz Technical University, Faculty of Marine Sciences, TR-61530 Surmene, Trabzon - TURKEY

Makale Kodu (Article Code): KVFD-2010-2014

Summary

Tristomella laevis (Monogenea, Capsalidae) was recorded on gills of sword-fish *(Xiphias gladius)*, collected from Ayvacık, Çanakkale, for the first time in Turkey. Infested fish weight ranged between 8.1 and 10.5 kg. Parasites were observed generally on small fish rather than big fish. Main prevalence of parasites was determined as 70% and serious gill damage was observed on the host fish.

Keywords: *Metazoa, Parasite, Sword-fish*

Türkiye'nin Ege Denizi'nde *Tristomella laevis* (Monogenea, Capsalidae) İçin İlk Rapor

Özet

Türkiye'nin Çanakkale ili Ayvacık sahillerinde avlanan kılıç balıklarının *(Xiphias gladius)* solungaçlarından *Tristomella laevis* (Monogenea, Capsalidae) ilk kez izole edilmiştir. Enfeste olmuş balıkların ağırlık aralığı 8.1 ve 10.5 kg olarak belirlenmiştir. Parazitler daha çok küçük balıklarda gözlemlenmiştir. Parazitlerin ortalama prevelansı %70 olarak belirlenirken balıklarda ciddi solungaç hasarları tespit edilmiştir.

Anahtar sözcükler: *Metazoa, Parazit, Kılıç balığı*

INTRODUCTION

Monogeneans are lives in freshwater, brackish and marine environments and they all have a direct life cycle. The majority of the monogeneans are ecto-parasitic and generally attached on external surfaces of their hosts [1].

Many reports have presented high pathogenesis of monogeneans in aquatic systems. The parasites can cause different effects of host such as, feeds of the host tissue, mechanic effect, gland secretions and vectors for viruses and bacteria. Therefore monogeneans infestations cause for serious mortality in fish farms [1,2].

Tristomella laevis (synonyms: *Tristoma leave, Tristomum histiophori, Tristomum laeve* var. *armata* and *Tristomella leave*), is a capsalid monogenean parasites. It was already reported from different fish species *(Xiphias gladius, Makaira indica, Makaira nigricans, Tetrapterus albidus)*. And also *Tristomella laevis* was isolated on cultured Atlantic bluefin tuna *(Thunnus thynnus)* [3].

Broadbill sword-fish *(Xiphias gladius)* is a highly migratory fish species. It shows a wide geographical spread including Atlantic, Indian and Pacific, Mediterranean Sea, the Sea of Marmara, the the Sea of Azov and Black Sea [4,5]. *X. gladius* is found in all Turkish sea and annual sword-fish production of Turkey is 386 tones in 2008 [6].

Monogeneans are very common parasites of fish [7], but there is no record related to *Tristomella* infestation in Turkey. *Tristomella laevis* infestation on sword-fish was exhibited for the first time in Turkish sea in the present study.

İletişim (Correspondence)
☎ +90 464 223 33 85
✉ aquasevki@msn.com

MATERIAL and METHODS

Twenty sword-fish *(Xiphias gladius)* were caught by drift-net in the coast of Ayvacık (39°36' N; 26°24' E) between May and August 2008. The gills of host fish were extracted, and then examined in the laboratory for metazoan parasites [8]. Parasites were observed on gills of fish and then fixed in 10% formalin. Body weight of host fish, length and width of parasites were recorded and the parasites were identified [9].

RESULTS

Tristomella laevis was found on gills of sword-fish *(Fig. 1)* and mean prevalence of the parasites was determined 70%. Average density of parasites on the both gills was 10. Infested fish weight ranged between 8.1 and 10.5 kg. Body size of parasites were measured as fallows; mean length 14.3±0.2 mm, mean width 13.1±0.5 mm and serious erosions were realized in gills of the fish. And also parasites were observed frequently on small fish rather than big fish.

DISCUSSION

Parasites can cause many different damages on their host fish. *Tristomella laevis* previously was reported on *Thunnus thynnus* [3], but any pathological symptoms were not mentioned in the study. Unlike the previous study, this study presents serious gill damages due to *T. laevis* on *X. gladius*.

Sword-fish are fairly migratory fish. Therefore, they may carry their pathogens from anywhere to another aquatic location. The production of marine fish is very intense *(Sparus aurata* and *Dicentrarchus labrax)* in the coast of Aegean and Mediterranean Sea of Turkey [10,11]. Although many parasitological studies were realized on fish species [7,12,13,14], *Tristomella laevis* was not observed so far on cultured and other fish in Turkish sea. However, location of the parasites shows that the parasite maybe infest economical fish species in the area.

Monogenean fish parasites were commonly reported in *Cyprinus carpio* and *Esox lucius* in Turkey. But sea bass and sea bream are the most common hosts cultivated fish species for the monogenetic parasites [7]. The only parasite report from *X. gladius* in Turkish sea is *Pennella instructa* (Copepoda) [15]. In this study is the first monogenean parasite report from *X. gladius* in Turkey. Therefore present study is very important in terms of parasitic studies in the country.

Acknowledgements

We like to thank Prof. Dr. Tomáš Scholz for identification of the parasites.

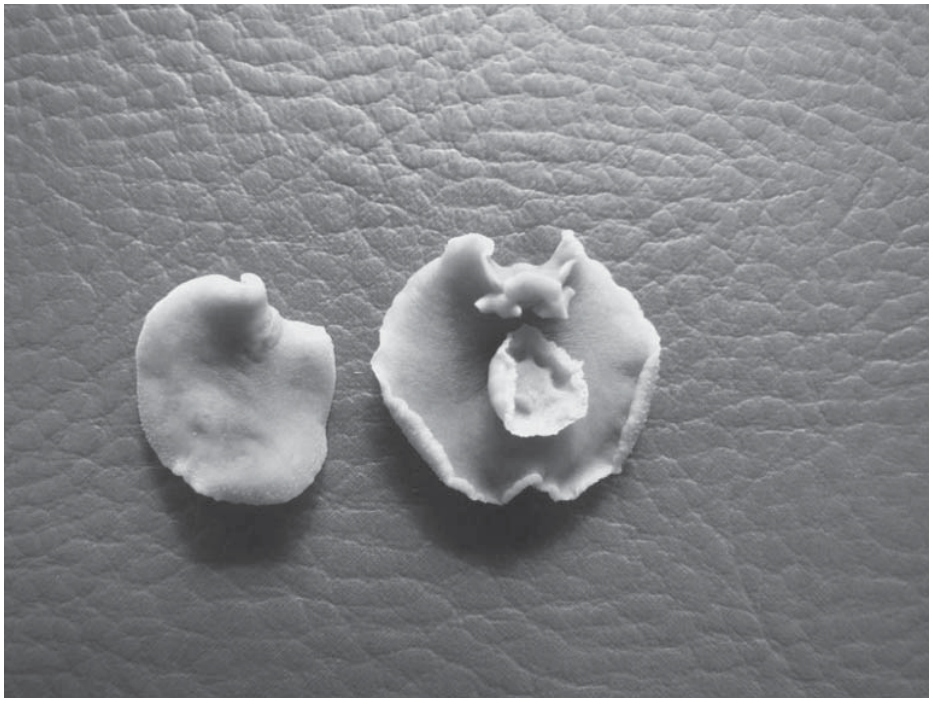

Fig 1. Dorsal and ventral view of *Tristomella laevis*

Şekil 1. *Tristomella laevis*'in dorsal ve ventral görünüşü

REFERENCES

1. Buchmann K, Bresciani J: Monogenea *(Phylum Platyhelminthes),* **In,** Woo PTK (Ed.): Fish Diseases and Disorders, Volume 1: Protozoan and Metazoan Infections, 2nd ed., pp 297-301, CABI Publishing, Wallingford, Oxfordshire, U.K., 2006.

2. Lasee BA: Introduction to Fish Health Management, 2nd edition, p 52, U.S. Fish and Wildlife Service, Onalaska, Wisconsin, 54650, 1995.

3. Mladineo I, Jelena Z, Ili C, Milan C, Ankovi C: Health survey of Atlantic bluefin tuna, *Thunnus thynnus* (Linnaeus, 1758), reared in Adriatic cages from 2003 to 2006. *J World Aquac Soc,* 39, 282-289, 2008.

4. Hardy A: The Open Sea: Its Natural History Part II. Fish and Fisheries. 82 p., Collins, London, 1959.

5. Nakamura I: Xiphidae. **In,** Whitehead PJP (Eds.): Fishes of the North-eastern Atlantic and the Mediterranean. Vol. II, pp.1006-1007, UNESCO, Paris, 1986.

6. TÜİK (Türkiye İstatistik Kurumu): Su Ürünleri İstatistikleri, 2009.

7. Kayis S, Ozcelep T, Capkin E, Altinok I: Protozoan and metazoan parasites of cultured fish in Turkey and their applied treatments. *Isr J Aquac-Bamidgeh,* 61, 93-102, 2009.

8. AFS-FHS (American Fisheries Society-Fish Health Section): Suggested procedures for the detection and identification of certain finfish and shellfish pathogens. 5th ed. American Fisheries Society, Bethesda, Maryland, USA, 2003.

9. Hendrix SS: Marine flora and fauna of the eastern United States, Plathelminthes: Monogenea, NOAA Technical Reports NMFS 121, Technical Report of Fishery Bulletin, NOAA/National Marine Fisheries Service, Seattle, Washington, 12, 1994.

10. Coban D, Saka S, Fırat K: Türkiye'deki çipura (*Sparus aurata* L., 1758) larva üretim tesislerinin anaç yönetim teknikleri. *E. Ü. Journal of Fisheries & Aquatic Sciences,* 21, 133-138, 2004.

11. Fırat K, Saka K, Coban D: Türkiye'deki levrek (*Dicentrarchus labrax* L., 1758) larva üretim tesislerinin anaç yönetim teknikleri. *E. Ü. Journal of Fisheries & Aquatic Sciences,* 21, 123-128, 2004.

12. Whittington ID: The Capsalidae (Monogenea: Monopisthocotylea): A review of diversity, classification and phylogeny with a note about species complexes. *Folia Parasitol,* 51: 109-122, 2004.

13. Alas A, Oktener A, Yılmaz, M: Gnathia sp. (Gnathiidae) Infestations on marine fish species from Turkey. *Kafkas Univ Vet Fak Derg,* 15 (2): 201-204, 2009.

14. Trilles JP, Oktener A: New host records for *Ceratothoa oestroides* and *Anilocra physodes* (Isopoda, Cymothoidae) in Turkish waters. *Kafkas Univ Vet Fak Derg,* 15 (3): 469-471, 2009.

15. Oktener A, Trilles JP, Leonardos I: Five ectoparasites from Turkish fish. *Türkiye Parazitol Derg,* 31, 154-157, 2007.