

A Survey of Gill and Digestive System Parasites of BrownBanded Bambooshark *Chiloscyllium punctatum* from the Gulf of Thailand

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Abstract

The species of benthic shark, BrownBanded Bambooshark (*Chiloscyllium punctatum*) were collected from Exclusive Economic Zone of the Gulf of Thailand. Fish samples were examined both of external and internal parasite. 15 samples of sharks found only 12 sharks that infected with parasites. Two family of endoparasites, family Onchobothriidae and family Phyllobothriidae of phylum platyhelminthes were found highest prevalence and mean intensity at gastrointestinal especially at the intestine that unidentified. Three genus of ectoparasites, *Eudactylina Gnathia* and *Caligus* were found at the gill area. They had prevalence and mean intensity follow by intestine and that also unidentified species.

Introduction

Brownbanded Bambooshark (*Chiloscyllium punctatum*) is the small benthic shark in family Hemiscyllidae and distributed mainly in Southeast Asian water. This species taken in inshore fisheries in Thailand and utilized for human food. Nowadays, their status recognized as “Near Threaten” (Tassapon *et al.*, 2560)

The Gulf of Thailand looks like a basin that is an area of sediment from several rivers makes seabed like mud and sand are spread everywhere. (Department of Marine and Coastal Resources, 2013) and benthic sharks are located in the sand or sand along the coast. (Tassapon *et al.*, 2560). In the Gulf of Thailand, the genus of benthic sharks *Chiloscyllium*, there are 5 species. *Chiloscyllium punctatum* is the most abundant species in this genus and found in this cruise of M.V.SEAFFDEC 2. (Tassanee *et al.*, 2560) that caught by the trawl.

Currently, Sharks is an another marine animal that is beginning to be consumed. Capture rates are increasing depend on human needs especially, the species *C. punctatum* according in IUCN Red List: NT (Tassapon *et al.*, 2560). The habitat of the shark is *C. punctatum* affected parasites to live inside and outside of the body. Some parasites can infected to human directly due to consumption of food that composed by shark (Chanya and Smarn, 2014).

There were some reviews of *C. punctatum*'s parasites. In Thailand, is relatively limited occurrence. The researches shows that many parasitic species of *C. punctatum* in the gastrointestinal that is classified as a flat worm or Platyhelminthes. In 2012, found a new species of cestode, discovered by Thai researchers (Watchariya, 2556).

In this study, investigated parasitics of *Chiloscyllium punctatum* in gastrointestinal and gill area. This research is a basic and can contribute with other researches related to parasite studies in benthic sharks *Chiloscyllium punctatum*.

Material and Methods

BrownBanded Bambooshark *Chiloscyllium punctatum* were caught by trawl in the Exclusive Economic Zone of the Gulf of Thailand (Lat.13°10.278'N - 06°44.219'N; Long.100°17.161'E - 102°14.323'E) in the period of August 2018. Identification this species was undertaken according to Kent E. and Volker H.(1998), FAO.

Parasites were collected from gill stomach and intestine and fixed in 70 % alcohol for protect condition 24 hr. They were used by a stereoscopic microscope and Identified family

as described by Parasitology of Aquatic animals based on Yamaguti (1963). The prevalence mean intensity and mean abundance of parasites were determined according to Bush *et al.*(1997).

Result and Discussion

The samples of *Chiloscyllium punctatum* were collected at the Exclusive Economic Zone of the Gulf of Thailand. 12 samples from 15 samples of sharks infected with parasites. Three genus of ectoparasites, *Eudactylina* *Gnathia* and *Caligus* were found at the gill area and two family of endoparasites, family Onchobothrithriidae and family Phyllobothriidae of phylum platyhelminthes were found at stomach and intestine that unidentified (Table 1).

Compared three sites of infection of *Chiloscyllium punctatum* sharks in the Gulf of Thailand, intestine is the highest site that found parasites follow by gill and stomach, respectively. So, that number of parasites depend on prevalence and Mean intensity in each group of parasites.

Table 1 Prevalence and Mean intensity of parasites from 13 *Chiloscyllium punctatum* sharks in the Gulf of Thailand

Host	Parasites	Site of Infection	Prevalence (%)	Mean intensity (ind./fish)
<i>Chiloscyllium punctatum</i>	<i>Eudactylina</i> sp.(co)	gill	73.33	16.46
	<i>Gnathia</i> sp. (iso)	gill	20.00	5.46
	<i>Caligus</i> sp. (ar)	gill	6.67	0.08
	Unidentified Onchobothrithriidae(c)	gastrointestinal	13.33	1.46
	Unidentified Phyllobothriidae (c)	gastrointestinal	40.00	24.69

c : cestode , co : copepod , iso : isopoda , ar : arthropoda

Cestode

Two family of cestode, Onchobothrithriidae and Phyllobothriidae are Phylum Platyhelminthes found in gastrointestinal.

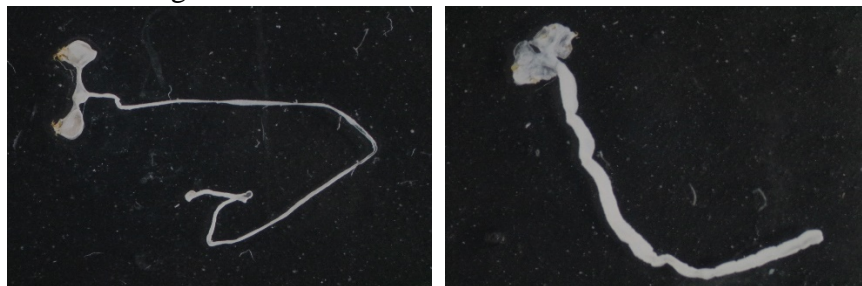


Fig 1. *Onchobothrithriidae*, Cestoda

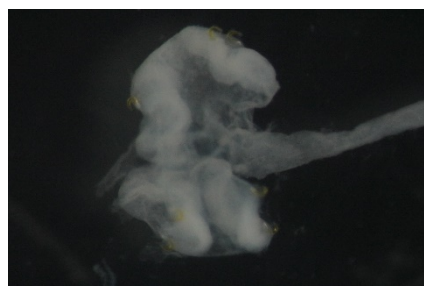


Fig 2. *Phyllobothriidae* Cestoda

Copepod

One genus of copepoda, *Eudactylina sp.* found in gill. It is the external parasite.



Fig 3. *Eudactylina sp.*(Female)



Fig 4. *Eudactylina sp.*(Male)

Isopod

Gills sometimes infested by larval isopods (Praniza-larva of the isopod *Gnathia*).



Fig 5. *Gnathia sp.*

Arthropod

One genus of arthropoda, *Caligus sp.* found in gill. It is the external parasite.



Fig 6. *Caligus sp.*

References

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