

# COLLABORATIVE RESEARCH SURVEY ON MARINE FISHERIES RESOURCES AND ENVIRONMENT IN THE GULF OF THAILAND 2018

## Occurrence of ectoparasite in the brown-banded bamboo shark (*Chiloscyllium punctatum*) from the Gulf of Thailand

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# Outlines:

- **1. Objectives**
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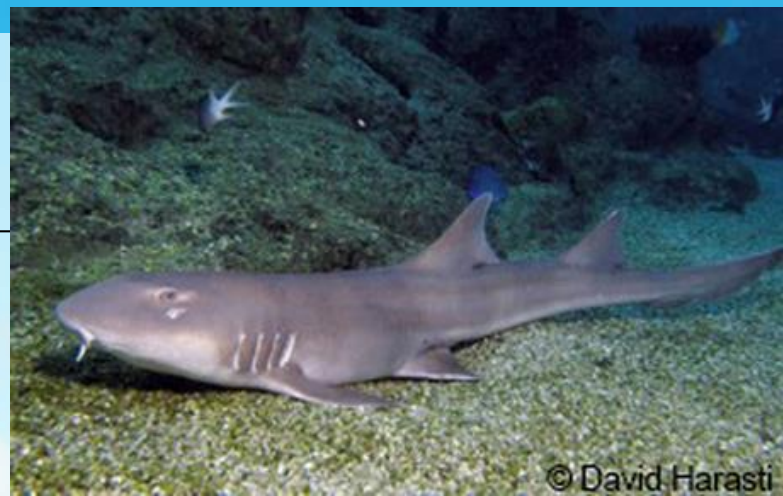
# Objectives:

- To investigate ectoparasites of the brown-banded bamboo shark (*Chiloscyllium punctatum*)
- To determine prevalence and intensity of parasites found in the brown-banded bamboo shark (*Chiloscyllium punctatum*)

# Introduction

## Brown-banded bamboo shark

- **Scientific Name:** *Chiloscyllium punctatum*
- **Common names:** Brown-banded bamboo shark (English), Chalarm Gob (Thai)
- **Habitat:** This species is a small benthic shark and commonly found on inshore coral reefs, sheltered tidal pools and off-shore bay.
- **Geographical Distribution:** The Indo-West Pacific region including off India, Thailand (both the Gulf of Thailand and the Andaman Sea), Malaysia, Singapore, Indonesia, Viet Nam, China, Taiwan, Japan, and Philippines. This species is also found off the southern coast of New Guinea, and northern coast of Australia.
- **In fisheries:** Regularly taken in inshore fisheries in India, Thailand, probably Singapore, Malaysia, and Philippines, and utilized for human food. Their status recognized as “Near Threaten”.

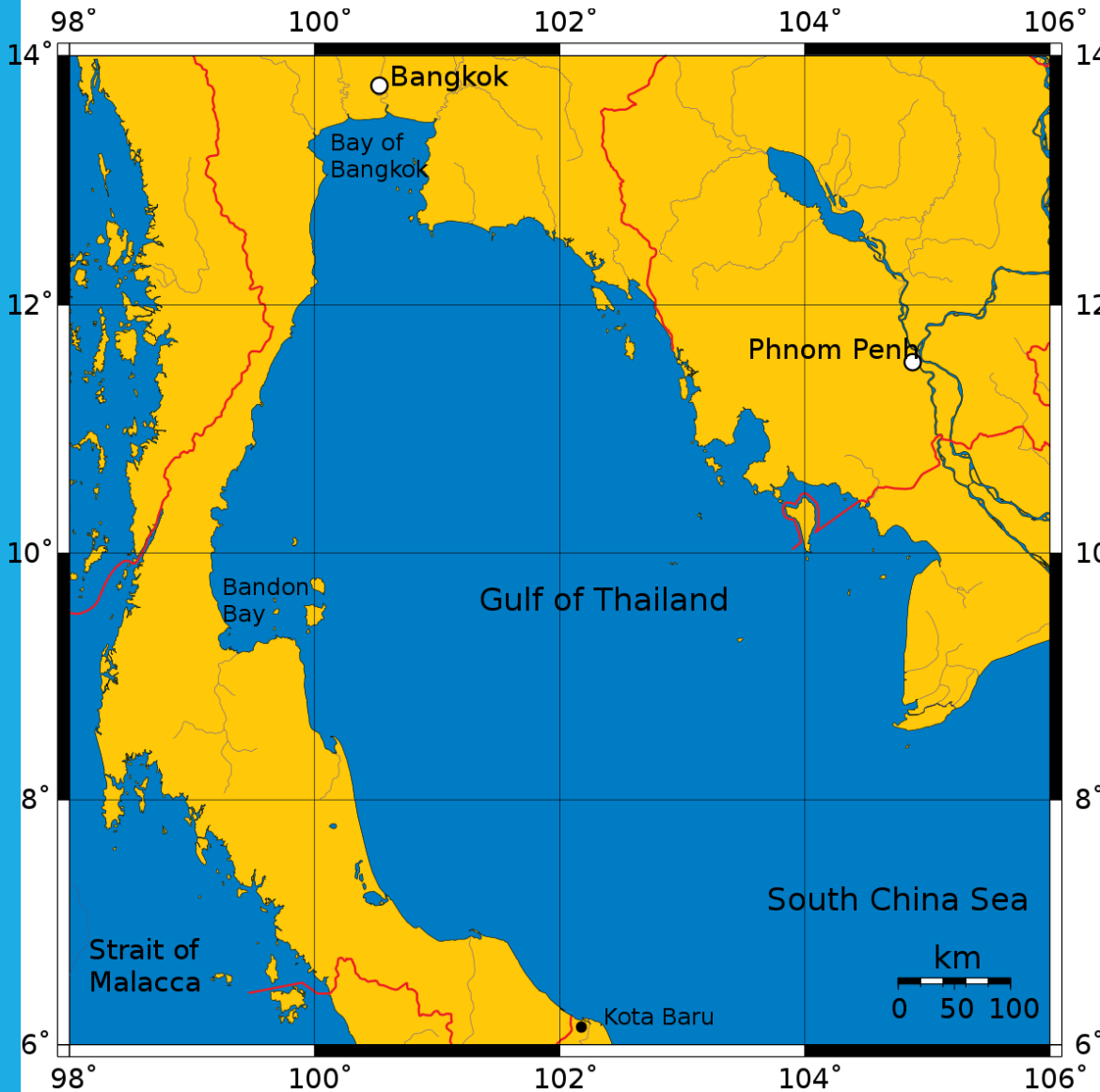


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<http://www.saveoursharks.com.au/brown-banded-bamboo-shark.html>



# The Gulf of Thailand



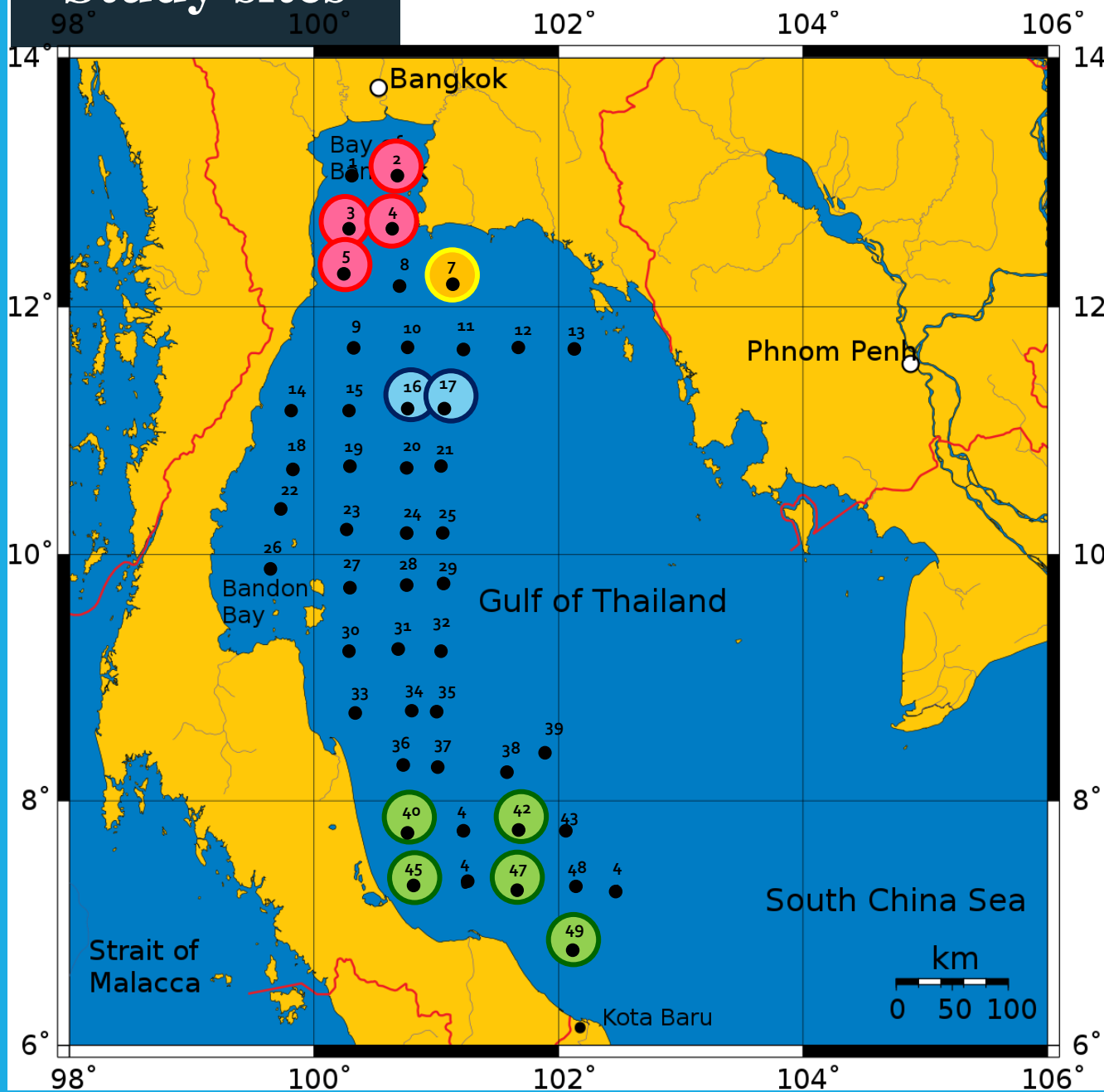
- The Gulf of Thailand is bordered by Thailand, Cambodia, and Vietnam.
- The gulf is relatively shallow and enriches the sediments from four major rivers, Mae Klong, Thachin, Choapraya, and Bang Pakong River.
- Seabed of the Gulf likes sandy mud or mud.

# Materials and methods

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- *C. punctatum* were collected from the marine resources survey using trawl in the Gulf of Thailand by the M.V. SEAFDEC2 cruise during August to September 2018.
- Fifteen sharks were sampled from 12 stations.

# Study sites



□ The inner Gulf of Thailand zone: Station no. 2, 3, 4 and 5

□ The eastern Gulf of Thailand zone : Station no. 7

□ The upper western Gulf of Thailand zone: Station no. 16 and 17

□ The lower western Gulf of Thailand zone - Station no. 40, 42, 45, 47 and 49

# Materials and methods (cont.)

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- Ectoparasites were examined from fins, skin and gills.
- Parasites were preserved in 70% alcohol and identified families as described by Parasitology of Aquatic Animals base on Yamaguti (1963) and Purivirojkul (2013).
- The prevalence and mean intensity were determined according to Bush et al. (1997) followed as

$$\text{Prevalence (\%)} = \frac{\text{No. of hosts infected}}{\text{No. of host examined}}$$

$$\text{Mean intensity} = \frac{\text{Total No. of parasites found}}{\text{No. of host infected}}$$

(ind./fish)



# Results and discussion

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**Class Maxillopoda: Copepods**

**Order Siphonostomatoida**

**Family Eudactylinae**

**Genus *Eudactylina***

**Species *Eudactylina* sp.**



**Figure 1 ectoparasite of *Eudactylina* sp.**

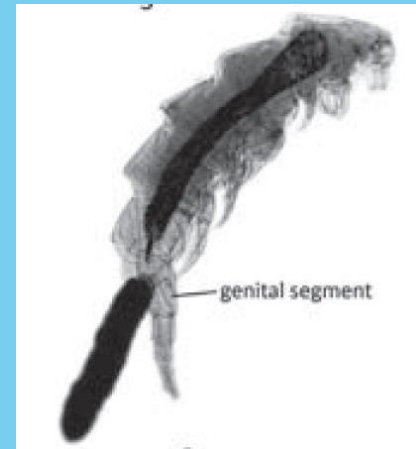


Photo: Purivirojkul, W. , P. Chaidee and T. Thapanand-Chaidee. 2009. Parasites of Deep-Sea Sharks from the Andaman Sea with Six New Records of Parasites in Thailand. Kasetsart J. (Nat. Sci.) 43 : 93 – 99.



**Class Malacostraca: Isopods**

**Order Isopoda**

**Family Gnathiidae**

**Genus *Gnathia***

**Species *Gnathia* sp.**

**Figure 2 ectoparasite of *Gnathia* sp.**



Watchariya. 2013. Parasitology of Aquatic Animals. Department of Zoological, Faculty of Science, Kasetsart University, Bangkok.



**Table 1 Occurrence of ectoparasite from *Chiloscyllium punctatum***

<b>Parasite species</b>	<b>No. of fish infected</b>	<b>Total number of parasites</b>	<b>Prevalence (%)</b>	<b>Mean intensity (intensity)</b>
<b><i>Eudactylina</i> sp. (copepod)</b>	<b>11</b>	<b>214</b>	<b>73.33</b>	<b>19.45 (1-78)</b>
<b><i>Gnathia</i> sp. (Isopod)</b>	<b>4</b>	<b>72</b>	<b>26.67</b>	<b>18.00 (1-39)</b>

**Table 2 Comparison of prevalence and mean intensity of fish samples from different zones of The Gulf of Thailand**

<b>The Gulf of Thailand zones</b>	<b>No. of fish infected</b>	<b>No. of fish examined</b>	<b>Total number of parasites</b>	<b>Prevalence</b>	<b>Mean intensity</b>
<b>Inner</b>	<b>4</b>	<b>5</b>	<b>98</b>	<b>80.00</b>	<b>24.50</b>
<b>Eastern</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>-</b>
<b>Upper western</b>	<b>1</b>	<b>2</b>	<b>20</b>	<b>50.00</b>	<b>20.0</b>
<b>Lower western</b>	<b>6</b>	<b>7</b>	<b>168</b>	<b>85.71</b>	<b>28.0</b>
<b>Total</b>	<b>11</b>	<b>15</b>	<b>286</b>	<b>73.33</b>	<b>26.00</b>

# Conclusion

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- *C. punctatum* from the Gulf of Thailand were infected with 2 species ectoparasites: *Eudactylina* sp. and *Gnathia* sp.
- Most of parasite was *Eudactylina* sp.
- The highest prevalence and mean intensity was found in the lower western Gulf of Thailand.
- These parasites produce damaged fish gills to become easily lead to other infections and affect the health of fish.





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