

Short Communication

Wild otter observation on Gurney Drive coast in Penang Island, Malaysia

Ayaka Yurimoto¹, Tatsuya Yurimoto^{*2}, Faizul Mohd Kassim³

¹Independent, Nagasaki, Nagasaki, Japan

²Japan International Research Center for Agricultural Sciences, Tsukuba, Ibaraki, Japan

³Penang Office of Japan International Research Center for Agricultural Sciences, Penang, Malaysia

Abstract: Otter was irregularly observed on Gurney Drive coast in the northern part of Georgetown, Penang Island from June 2015 to March 2016. Authors examined relationship between the otters sighting date and time and the tide pattern. Otter was observed a total of five times on 27th June, 17th August, 6th December 2015, 14th March, and 16th March 2016. These otters were identified same species which was the smooth-coated otter, *Lutrogale perspicillata*, from the morphological characteristics. Swimming direction of the otters were characterized two patterns that the first was the otters swam from inner part to east coast in a cove of Gurney Drive coast and the second was the otters swam from the east coast to inner part of the cove. From this result, it was suggested that the otters swam to drive fish toward tide flow and the otters catch the fish efficiently.

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Introduction

The 13 species of otter live in the world, and they are the top predator in waterside area. However, many of them have problems with reduction of habitat and population, and they are on the verge of extinction (IOSF, 2018). Eurasian otter (*Lutra lutra*), Short-clawed otter (*Aonyx cinerea*), Hairy-nosed otter (*L. sumatrana*) and Smooth-coated otter (*Lutrogale perspicillata*) live in the Southeast Asian including peninsular Malaysia (ESABII, 2009; IOSF, 2018). Among them, the Smooth-coated otter was widely distributed in South and Southeast Asia and it was a common species in peninsular Malaysia. However, this otter is also subject to the Animal Protection Act in Malaysia since 2010 (IOSF, 2018). Declining factors of the otters in the Southeast Asia are pointed out influence of hydroelectric power plant construction, pesticide contamination, poaching, habitat loss due to reclamation of wetlands (De Silva, 2015), and the similar affects are suggested in Malaysia (IOSF, 2018).

Sighting of the smooth-coated otter in peninsular Malaysia is reported many around Penang Island.

According to recent reports, the otter is observed around coastal area of Georgetown and Seri Tanjung Pinang in Penang Island, and Byram on the opposite coast of Penang Island (Guy, 2013). On the other hand, the star online magazine, which is a major domestic newspaper in Malaysia, Sungai Pinang River in Penang Island was concerned influence on the Smooth-coated otter inhabits due to serious water pollution in around 2006. The Penang Drainage and Irrigation Department (DID) established a cleanup infrastructure system in 2009, and they collected about 120 tons of garbage on every year and took measures to relocate residents (Francis, 2015). Thereafter, ten smooth-coated otters consisting 4 adults and 6 children were observed around the river in June 2015. It is suggested that fish, which is a food for otter, came back to the river, because the water quality was improved (Francis, 2015). Sighting report of the smooth-coated otter is increasing around Penang Island on recent. And then, Authors observed the smooth-coated otters on Gurney Drive coast in Penang Island and got some findings about their feeding behavior from the observation results.

*Corresponding author: Tatsuya Yurimoto
E-mail address: yurimoto@outlook.com

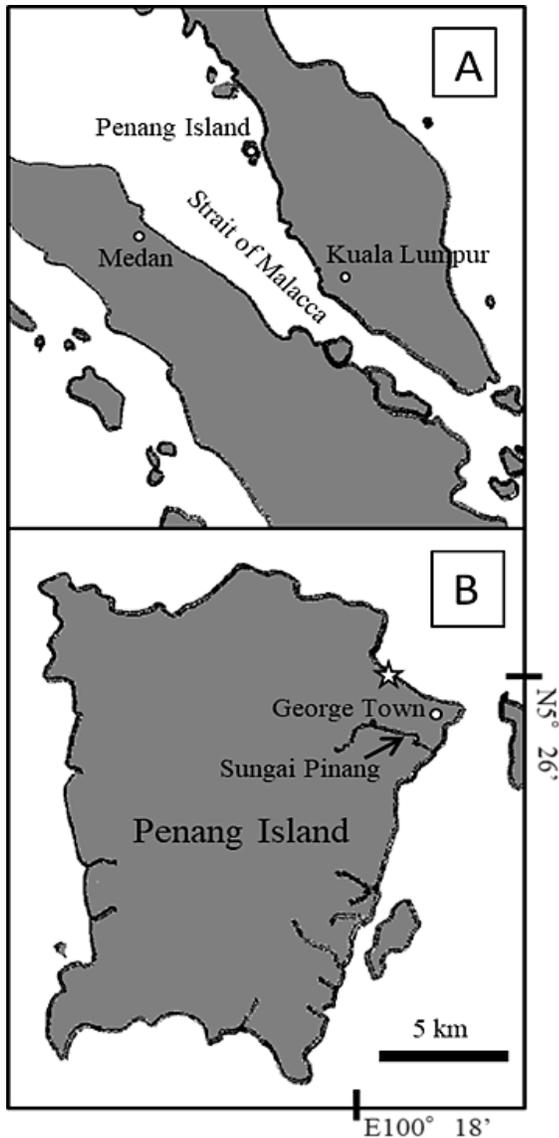


Figure 1. Location of Penang Island in the Strait of Malacca (A) and otters observation site (☆) on Gurney Drive coast in the island (B).

Materials and Methods

Penang Island is known the area is about 295 km², length of east-west is about 12 km and length of north-south is about 24 km (Fig. 1B). There is a city called Georgetown in the northeastern part of the island and the population is about 300,000 (Wikipedia, 2018). There are many sighting of the smooth-coated otter around the city area. Authors sighted otters on the Gurney Drive coast in Georgetown and irregularly observed otters on the coast from June 2015 to March 2016. We recorded date and time and photographed with a digital camera when observed otters (Fig. 1B). Tide data around Penang Island was obtained from the

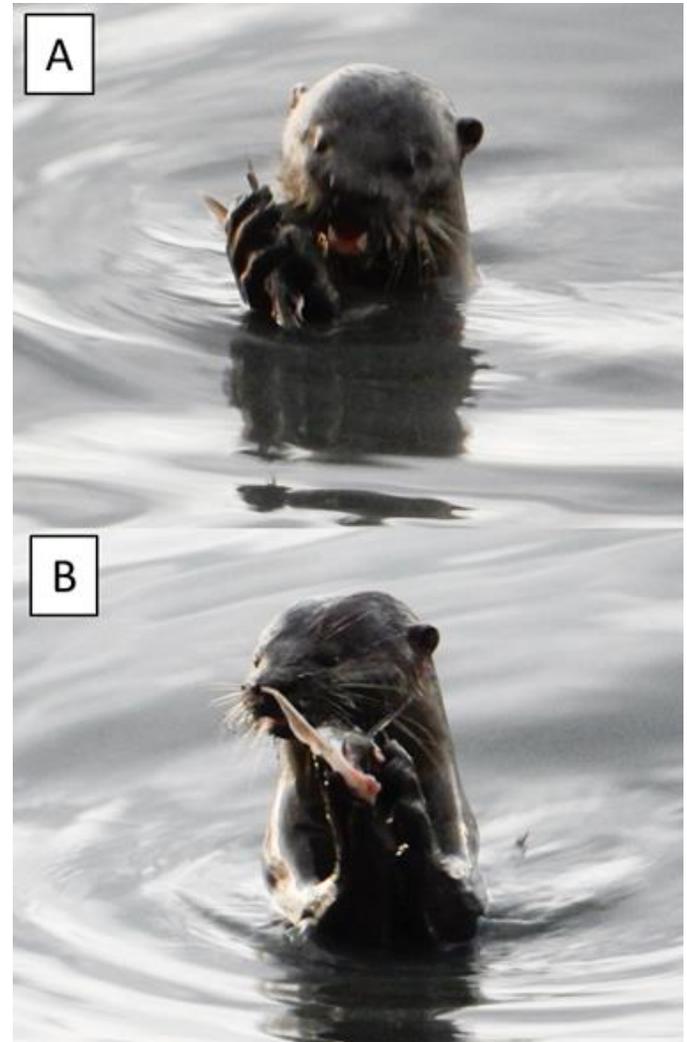


Figure 2. Photographs of fish capture (A) and predation (B) by the otters on Gurney Drive coast in December 2015.

tides 4 fishing (<https://tides4fishing.com/as/malaysia/pulau-pinang>) to examine relationship between the sighting time and the tide level.

Results and Discussion

Authors got a total of five times sighting of the otters on the Gurney Drive coast in 27th June, 17th August, 6th December 2015, 14th March and 16th March 2016. All otters were same species from the morphological characteristics. Upper side of the body was dark brown color and the lower side was yellowish brown. Both sides of the neck and the jaw were cream color and Authors sometimes could observe no hair on the nasoscope. Therefore, it was estimated to be the smooth coated otter (Yasuma, 2013). Also, the otters were observed a group with from 2 to 4 individuals on

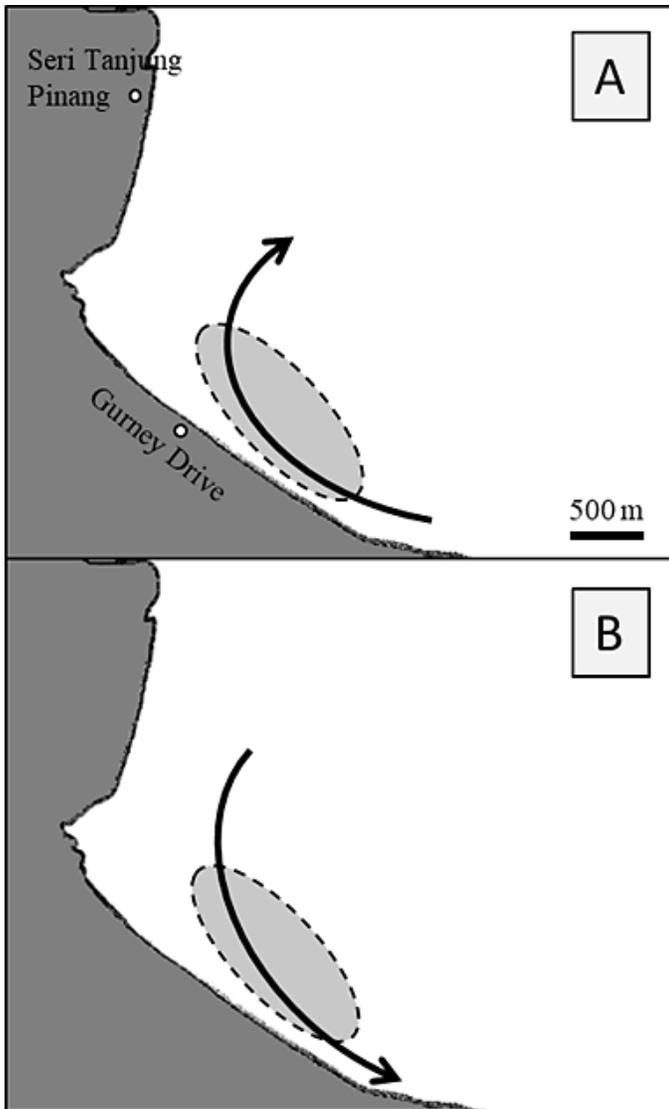


Figure 3. Typical two swimming direction patterns of the otters on Gurney Drive coast. A: Swimming direction during ebb tide, B: Swimming direction during rising tide. Dotted circle means main capturing area of the otters.

the coast and they were swimming while fish capture (sea catfish etc.) and the predation. Then, this coastal area is considered a feeding area for the otters (Fig. 2). Also, there was two types of the otter's swimming direction. The first type was they swam from east coast to inner part in a cove on Gurney Drive coast and they moved to the offshore (Fig. 3A). And the second type was they swam from inner part to east coast in the cove (Fig. 3B). Therefore, authors compared relationship between sighting date and time of the otters and the day of tide data in Penang Island. When we sighted the otters, the tide was during neap tide and

medium tide, and the sighting time was during tidal fluctuation (Fig. 4). In addition, there was a relationship between the tidal change and swimming direction of the otters. They swam to inner part from east coast in the cove during ebb tide on 17th August and 14th March, and they swam to the east coast from the inner part during rising tide on 27th June and 6th December. From this result, it was suggested that the otters swam for fish capture and feeding while they were driving the fish toward tide flow. Gurney Drive coast is proceeding a coastal development which is a plan about 60 acres of coastal areas are reclaimed since June 2016 (OnlyPenang, 2016). The reclamation will be retail area of food and beverage, water garden, artificial beach and coastal forest land. Therefore, coastal areas including the otters sighting area will be reclaimed by the coastal development. One of the main objectives on the development is to make that citizen access easier to the coastal areas and they have more opportunities to interact with nature. Therefore, authors hope the coastal development will be harmonized well with inhabiting of wild animals such as the otters.

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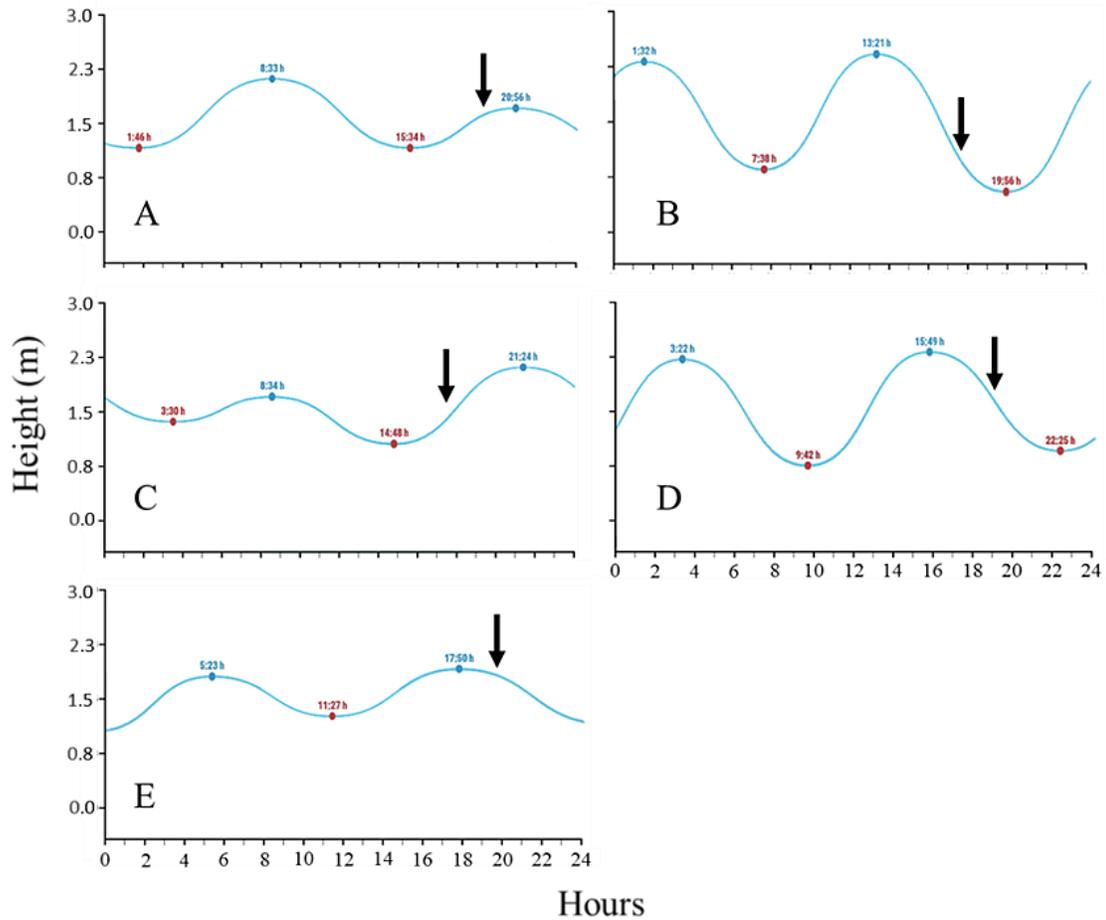


Figure 4. Tidal pattern of the sighting day on Gurney Drive coast in Penang Island. Tide data from tides4fishing (<https://tides4fishing.com/as/malaysia/pulau-pinang>). The otters were observed from neap tide (A, C, E) to mid-tide (B, D). Arrow means sighting time of the otters. A: 27th June, B: 17th August, C: 6th December, D: 14th March, E: 16th March.

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