Species of Mayan Cichlid (*Cichlasoma urophthalmus*) in the Tanjungan Water Pump Area, Jakarta

Muh. Sulaiman Dadiono[1]*

[1]*Department of Aquaculture, Faculty of Fisheries and Marine Science, Jenderal Soedirman University*

*Corresponding author e-mail: sdadiono@unsoed.ac.id, sdadiono@gmail.com

Abstract

The foreign predatory fish Mayan cichlid (Cichlasoma urophthalmus) in the waters causes a reduction in biodiversity and is very dangerous for the sustainability of the aquatic ecosystem in Indonesia. This study aims to analyze and describe the catch of the mayan cichlid and examine the negative impact of finding this species in the Tanjungan Water Pump Jakarta. This study used the desk study method, observations by informants in the field and species identification methods based on morphological observations of Miller et al. (2005) and Nico et al. (2007). The finding of the Mayan cichlid fish species in the Tanjungan Water Pump Jakarta is an alarm or sign of the negative impacts of invasive fish to the government so that they can develop regulations that are focused and directed towards the spread of invasive species in Indonesian.

Keywords: *Cichlasoma urophthalmus, Foreign Predatory Fish, Mayan Cichlid, Tanjungan Water Pump*

Introduction

The Mayan cichlid (*Cichlasoma urophthalmus*) is a species of fish in the cichlid family originating from North American waters (Matamoros et al, 2005). Based on BKIPM (2011), this species has spread in several Southeast Asia (Thailand, Indonesia and Singapore). This species is a voracious predatory fish that can eat various types of aquatic organisms such as gastropods, detritus, aquatic insects, molluscs, small fish and crustaceans (Caso-Chavez et al, 1986). Apart from these organisms according to Chavez-Lopez et al. (2005), this species can eat various types of aquatic plants such as algae. The Mayan cichlid is classified as a carnivorous fish because it preys more on smaller animals, although this fish actually tends to be omnivore (Martinez-Palcios and Ross, 1988; Dadiono, 2023).

Mayan cichlids are able to adapt to new, extreme environments so that they are able to adapt to salinity, pH, temperature (Arthington and Mitchel, 1986). The Mayan Cichlid is currently often traded as ornamental fish and has not been officially registered as an ornamental fish cultivation commodity in Indonesia. In Southeast Asia, Mayan cichlid species develop very quickly and allow for population spikes such as in the Chao Phraya river in Thailand (Nico et al., 2007). In Indonesia, several species of Mayan cichlid have been found that have invaded several reservoirs and public waters, both fresh and brackish. The Tanjungan Water Pump is one of the water pumps that connects fresh water and seawater confluence in Kapuk Kamal, the capital city of Jakarta and around the area there has been no record of ornamental fish farming activities, with the discovery of mayan cichlid fish in the area this can be data to strengthen the resilience of Indonesian aquatic ecosystems against foreign predatory fish invasions to remain balanced.

Methods

This research method uses a combination of desk study methods from the results of pre-existing research, combined with field observation methods by informants at the Tanjungan Water Pump location, Jakarta. The information data obtained is then compiled using the study method through interviews and discussions via social media (Dadiono and Suryawinata, 2022).

Secondary data was then reviewed with several references in the form of journals and articles related to the Mayan cichlid (Dadiono and Aminin, 2021; Dadiono and Wijaya, 2022). Data search was carried out using the Google search engine with the keywords Mayan Cichlid (Dadiono and Suryawinata, 2021; Dadiono and Andayani, 2022).

The identification method for the Mayan cichlid (Cichlasoma urophthalmus) species found at the Tanjungan Water Pump uses a morphological observation approach based on Miller et al. (2005) and Nico et al. (2007).

Results and Discussions

The Mayan cichlid (Cichlasoma urophthalmus) specimen (Figure 1) caught at the Tanjungan Water Pump, Jakarta has a total length (TL) of 16 cm. Mayan cichlid fish were obtained by local anglers on August 2 2019 using a relix cangkek 1-3lb 632XUL fishing rod, Ryobi Smurfs 800 reel, PE Natuna Line 0.4, Samar Leader 10 lb, Lure Softlure and Snap Swivel Snap 0. The Tanjungan Water Pump area itself is a meeting between river water and sea water and becomes a habitat for mangroves to grow, this area is close to the Jakarta PIK (Pantai Indah Kapuk) settlement, this area is used by the community as a tourist spot and fishing activities such as fishing spots.

Figure 1. Mayan Cichlid Fish at Tanjungan Jakarta Water Pump.

The Mayan cichlid fish specimen caught in the Tanjungan Air Pump area, Jakarta has the following morphological characteristics: Total length 16 cm, flat body shape like the morphological characteristics of Ciclidae fish, blunt fish snout with large mouth, sharp teeth on the mandible and maxilla. It has a large black stripe pattern on its body, the tip of the caudal fin and dorsal fin is reddish in color. The morphological features above are similar to those proposed by Miller et al. (2005). Mayan cichlid fish usually have a length of 8 cm to 22 cm and a maximum weight of 600 grams, there is a transverse black line on the body (BKIPM, 2011). The characteristics above are slightly different from the Mayan cichlid caught by Nico et al. (2007), where the Mayan cichlid fish caught in Thailand has 7 lateral stripes and 2 black dots on its body, namely the midlateral spot in the middle and the caudal ocellus on the tail. So far the closest relative of the Mayan Cichlid that has entered Indonesia is the Jaguar Cichlid which has a morphology similar to the Mayan Cichlid but has a striking difference where the Jaguar Cichlid has a larger mouth, there are black spots on the anal and tail fins (Kullander and Hartel, 1997).

The entry of the mayan cichlid into Indonesian public waters is a threat to the local ecosystem, where the mayan cichlid has a high tolerance for changes in salinity and environmental changes such as pH, temperature and DO (Arthington and Mitchel, 1986). Mayan cichlid fish can survive in extreme environments and reproduce quickly so that it is possible to dominate in local waters. With this ability, it is feared that the spread of this fish species will make local fish in Indonesian waters, especially in the area around the Jakarta Tanjungan Water Pump.

Conclusion

The entry of mayan cichlids into local waters is a result of the irresponsible ornamental fish trade and is not properly controlled by the government or related agencies such as the Indonesian Ministry of Maritime Affairs and Fisheries through strict quarantine supervision. Cases of the entry of invasive foreign fish species into Indonesia have often occurred before, such as cases of the spread of tilapia and tilapia in Indonesian waters (Arghifari et al., 2019; Dadiono, 2021; Dadiono, 2022). The dominance of invasive fish can be fatal and have negative impacts such as damage to aquatic ecosystems,

decreased genetic quality of fish, changes in fish resources and an impact on the economy due to handling efforts (Jardine and Sanchirico, 2018; Haubrock et al., 2021). Because of this, it is necessary to have supervision from the government as well as strict regulations regarding sales permits and commitment from the public not to release invasive predatory fish in public waters throughout Indonesia.

Acknowledgement

Thank you to Mr. Dede Dimas Rahadi who has obtained and disseminated information on the existence of the Mayan cichlid fish species in the Tanjungan Water Pump area, Jakarta.

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