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SHORT COMMUNICATION

Alien ornamental fish, the black molly *Poecilia sphenops* (Valenciennes, 1846) (Poeciliidae) found in artificial lake in Warsaw, Central Poland

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ABSTRACT

This paper describes an introduction of aquarium ornamental fish, *Poecilia sphenops*, Valenciennes, 1846 (Poeciliidae) in an artificial water reservoir in Pole Mokotowskie park complex in Warsaw, Poland. Caught individuals have been identified and described. The finding is discussed with available literature describing introductions of alien species with aquaristical origin in Polish and European waters.

Keywords: aquarium, invasive species, ornamental pet, black molly, green swordtail, southern platyfish, variatus platy, Pole Mokotowskie park complex, *Poecilia sphenops*

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1. INTRODUCTION

The black molly, *Poecilia sphenops* (Valenciennes, 1846) is a species of freshwater viviparous fish reaching up to 7.5 cm in length. It naturally occurs in Central and South America, from Mexico to Colombia. It prefers water with a neutral pH towards slightly alkaline (pH 7.5-8.2), medium hard and hard (dGH 11-30) and temperature in the range 18-28 °C (Riehl and Baensch, 1996). Due to the relatively good availability on the global aquarium market and a wide range of tolerance to various environmental conditions, this species is observed beyond the range of natural occurrence, as the subject of introduction in Asian countries (Ng et al., 2013), but also on the European continent (Takács et al., 2017). Among the most probable reasons for releasing members of the Poecilidae family in the natural environment are boredom or difficulties with selling or giving away an excessive number of these popular and readily breeding fish (Courtenay and Staugger, 1990; Maceda-Veiga et al., 2013). This species has not been found in Polish waters so far, although, according to local anglers, it was often observed in the summer in the thermally polluted water channel at Żerań Power Plant in Warsaw. However, this finding has not been documented. This paper presents data on the presence of *P. sphenops* in an artificial water reservoir in Pole Mokotowskie park complex in Warsaw, in central Poland.

2. MATERIAL AND METHODS

The work was a part of the Alien Hunter project (pl: Łowca Obcych), which aims are to locate and cover with the monitoring plants and aquarium animals introduced into Polish waters, where they may become a threat to the natural ecosystem.

Locality

Pole Mokotowskie park complex is located in the central part of Warsaw in Central Poland. The park houses a system of two concrete tanks connected by a channel, with a depth not exceeding 40 cm. In winter, the tanks are emptied. Water is completely drained into the city's sewage system. These water bodies are breeding grounds for native amphibians, but they are also known for the presence of aquarium animals, most likely released by the inhabitants of Warsaw. Among the exotic species described here are fish of the genus *Xiphophorus* (Maciaszek et al., 2019).

Fish detection and identification

The black-colored fish were observed and caught on 21.08.2019 during one of the inspections of aquarium fish presence in the waters of the park, conducted since the beginning of July 2019. Fish were measured, photographed and then identified using available scientific literature.

3. RESULTS AND DISCUSSION

All of the 5 caught individuals were identified as *P. sphenops*. Subjects usually had black body coloration. However, orange colors are noticeable in adults recognized as females (Fig.

1). Fishes were characterized by an average body length of 2.28 cm. Individual data are presented in Table 1.

All fish were caught in the immediate vicinity of the *Prunus domestica* L. tree, which also has the largest number of observations of fish of the genus *Xiphophorus*. Observations showed that representatives of *P. sphenops*, in the company of other aquarium fish, fed on fruit that fell into the water. No more individuals of this coloration were observed in the tank.

Figure 1. Adult *P. sphenops* specimens caught in the Pole Mokotowskie park complex.

Table 1. Lenght of caught fish.

No	Species	Body lenght [cm]
1	*P. sphenops*	3.86
2	*P. sphenops*	3.65
3	*P. sphenops*	1.32
4	*P. sphenops*	1.31
5	*P. sphenops*	1.26
Average		**2.28**

4. DISCUSSION AND CONSLUSIONS

The similarity in the coloration and size of the fish caught suggests that individuals come from the same population. No previous observations of individuals with similar colors, they suggest that they were the subject of a single, new introduction. There is a chance that the fish were released following observations of other ornamental aquarium fish successively multiplying in the tank, in this case representatives of the genus *Xiphophorus*. The phenomenon in which the existing populations of introduced species are allowed is further described in Europe, including in Hungary, in the city of Miskolc-Tapolca (Weiperth et al., 2019), or in the thermally-polluted Gillbach stream in Germany (Klotz et al., 2013) and applies to both fish and aquatic invertebrates. Although release due to a donation problem seems to be the most likely cause, introductions for breeding purposes cannot be excluded. Matured and fish and possibly they offspring could easily be caught in a future (Maciaszek et al., 2019).

Poecilia sphenops, like fish of the genus *Xiphophorus*, cannot survive in the waterbody during the winter because of the shallow nature of the basin. Creating a stable population is also not possible due to periodic emptying of the water tank (Maciaszek et al., 2019). Regardless of this, the reservoir should be under constant control of the alien animals presence in it, because of previous introductions one can expect more, which may result in releasing species posing a threat to our natural aquatic ecosystems.

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