FHUC UNL • FACULTAD DE HUMANIDADES Y CIENCIAS

LEcEn 2010 - 2020 Laboratorio de Ecología de Enfermedades

Ministerio de Producción, Ciencia y Tecnología | Santa Fe Provincia

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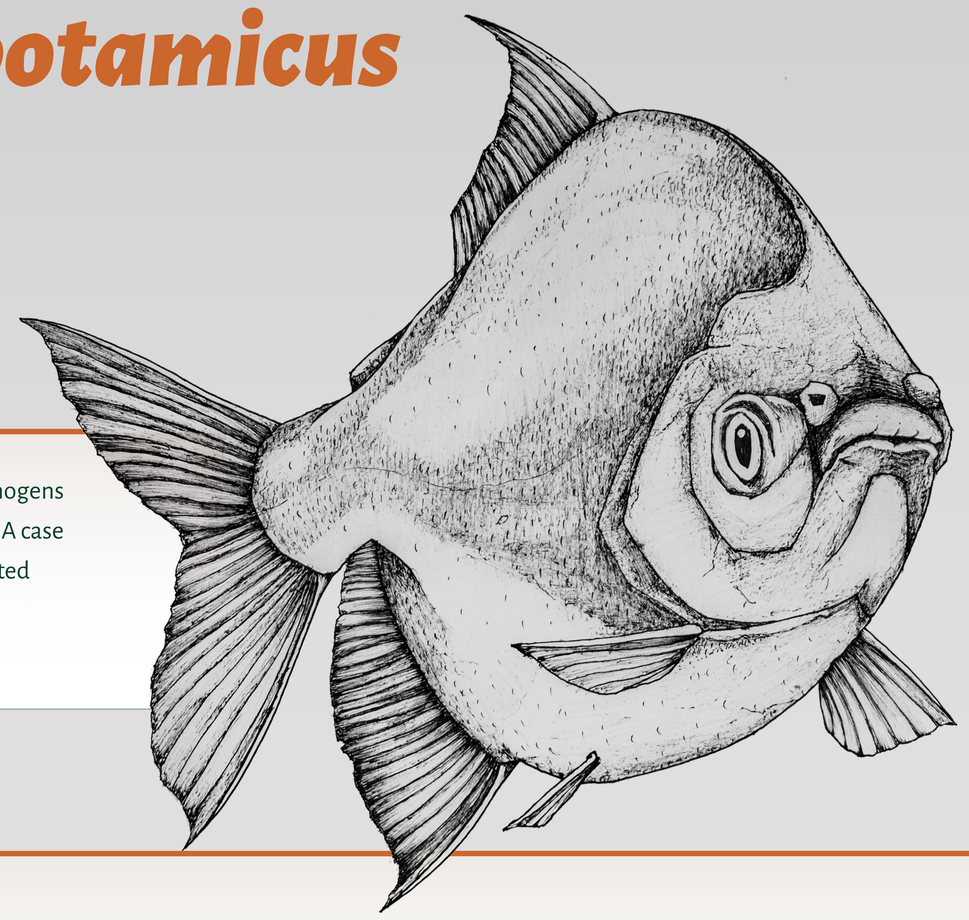
SPECIAL THANKS to the aquaculture production team of the Ministry of Production, Science and Technology of the province of Santa Fe, Argentina.

Intestinal obstruction caused by *Echinorhynchus* sp. (Acanthocephala) in farmed *Piaractus mesopotamicus* (Pacú) in Argentina

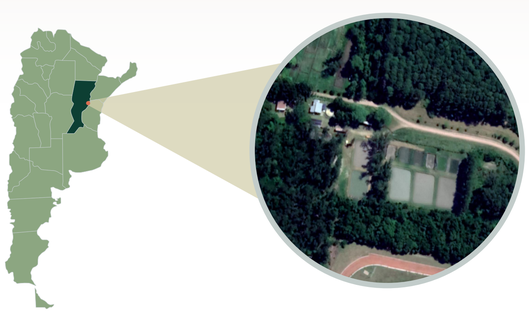


Introduction

The cultivation of pacu *(Piaractus mesopotamicus)* in Argentina there has been a significant increase in the last decade, particularly in the provinces of Misiones, Corrientes, Formosa, Chaco and Santa Fe. Intensive and semi-intensive farming systems used for fish farming cause stress and overcrowding, which can lead to an increased risk of exposure to pathogens and diseases (Sadhu et al., 2014; Henning et al., 2017). A case of massive infestation by an endoparasite that generated intestinal obstruction is presented in *P. mesopotamicus* cultivated in a fish farm in Santa Fe, Argentina.

Materials and methods

STUDY AREA



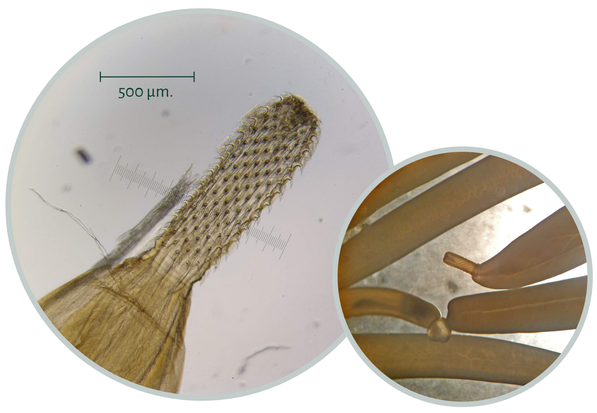
San Javier city, Santa Fe, Argentina

SAMPLING

NECROPSY

Digestive tract exam in search of parasites

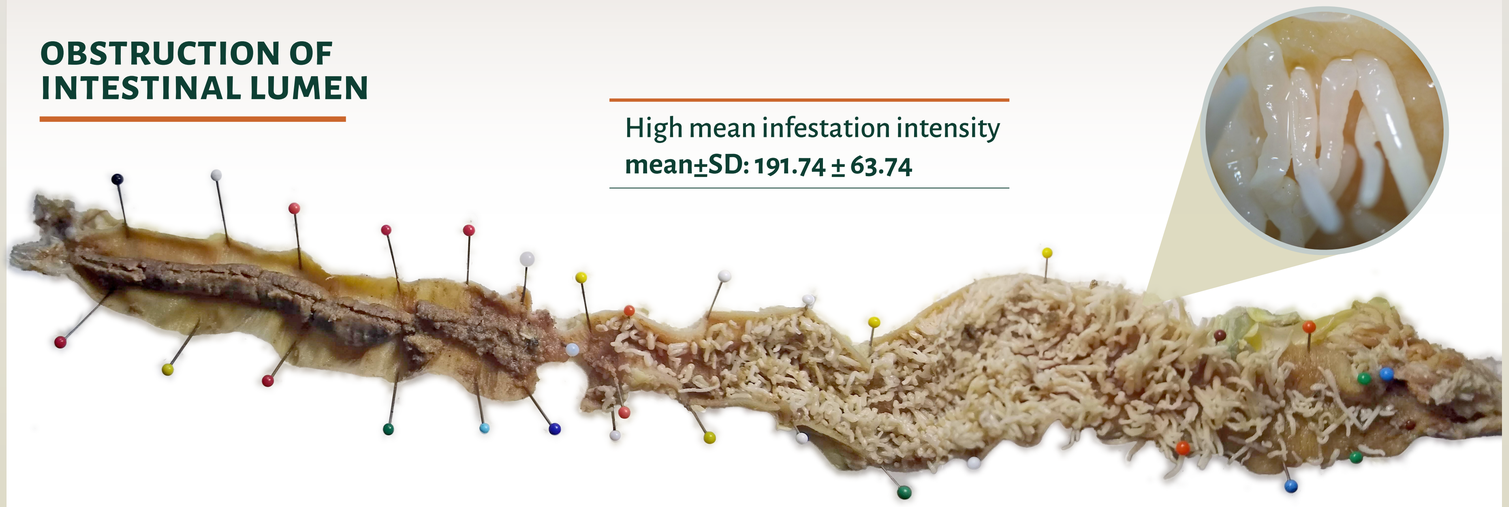
TAXONOMIC IDENTIFICATION OF PARASITES



Use of helminth staining and preservation techniques (Eiras *et al.*, 2006)

Results

OBSTRUCTION OF INTESTINAL LUMEN



High mean infestation intensity
mean±SD: 191.74 ± 63.74

Prevalence
100% *Echinorhynchus sp.* (Acantocephala, Echinorhynchidae)

Helminths location
Proximal portion of the foregut (anterior to the stomach) and in the intestinal cecum

Discussion and conclusion

Acanthocephalus in high densities can cause severe reactions in the hosts, due to inflammations and lacerations due to the penetration of the intestinal wall, causing problems in feeding performance and, in extreme cases, death. The presence of the *Echinorhynchus jucundus* species was only documented in populations of wild pacues (Argentina and Brazil) and in high density in captivity (Brazil) (Ferraz de Lima et al., 1980). This studio constitutes the first record of the genus *Echinorhynchus* parasitizing *P. mesopotamicus* under cultivation conditions and in high density, in Argentina. Molecular studies will confirm whether it is the same species and histopathological studies will continue to evaluate the health effects of this parasite-host association.

References

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• **Hennig, H.; Curto, A.; Zeballos, B. & Asoli, C. (2017).** *INTA y el desarrollo de la piscicultura en Argentina: experiencias de tecnología organizacional y agregado de valor en origen.* Entre Ríos: Ediciones INTA.

• **Sadhu, N.; Sharma S. R.; Joseph, S.; Dube, P. & Philipose, K. K. (2014).** Chronic stress due to high stocking density in open sea cage farming induces variation in biochemical and immunological functions in *Asian seabass* (Lates calcarifer, Bloch). *Fish Physiology and Biochemistry*, 40(4),1105-1113.

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