

HISTORIA NATURAL

Tercera Serie | Volumen 9 (2) | 2019/219-223

CORRECTION OF THE TYPE LOCALITY OF *Cichlasoma zarskei* OTTONI, 2011 (CICHLIFORMES: CICHLIDAE)

Corrección de la localidad tipo de Cichlasoma zarskei Ottoni, 2011 (Cichliformes: Cichlidae)

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INTRODUCTION

In the original description of *Cichlasoma zarskei* Ottoni, 2011 the type locality is indicated as “Brazil: Maranhão state: lago Malhada Grande, rio Maranhão basin”, and the abstract starts with “*Cichlasoma zarskei* sp.n. is herein described from the rio Maranhão basin”. After unsuccessfully trying to pinpoint the type locality, Heijns (2014) has suspected that something was wrong with this information, but could not offer a correction. Abreu *et al.* (2019) provide a list of coastal river basins of the state of Maranhão without mentioning a ‘rio Maranhão basin’.

A river named Maranhão does exist in Brazil, but it does not touch the territory of the homonymous state. The Rio Maranhão

is one of the headwater tributaries of the Rio Tocantins, which passes through the Distrito Federal and the state of Goiás before emptying into the Serra da Mesa hydroelectric reservoir, one of the biggest artificial lakes in Brazil.

The information provided by Ottoni (2011) on the type series (Figure 1) is actually inconsistent about the area where the collectors have executed their sampling. The paratypes in lot MNRJ 14504 have been collected in Arari by Gustavo Nunan and party on November 22, 1985. These collectors and date are the same as in MNRJ 14502. Obviously Nunan’s party could not have sampled in Arari, state of Maranhão, and in the same day in the rio Maranhão in Goiás, some 2.000 km south.

Holotype. MNRI 37576, 76.6 mm SL; Brazil: Maranhão state: lago Malhada Grande, rio Maranhão basin; G. NUNAN *et al.*, 22 Nov. 1985. **Paratypes:** Brazil: Maranhão state: MNRJ 14502, 56 (3 C&S), 48.1–99.6 mm SL; collected with holotype. MNRJ 14504, 77 (3 C&S), 43.1–86.0 mm SL; Igarapé Arari, Arari Municipality; G. NUNAN *et al.*, 22 Nov. 1985. MCP 45751, 4, 51.9–82.7 mm SL; Igarapé Arari, Arari Municipality; G. NUNAN *et al.*, 22 Nov. 1985

Figure 1 - Original information provided by Ottoni (2011) regarding the type series.

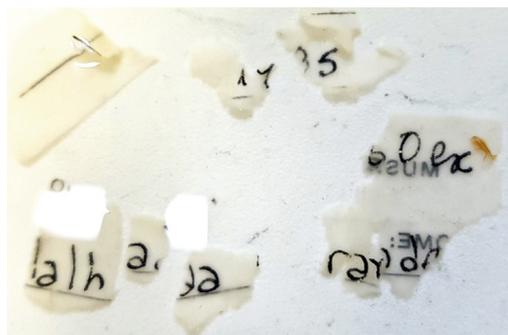


Figure 2 - Fragments of the original handwritten label.

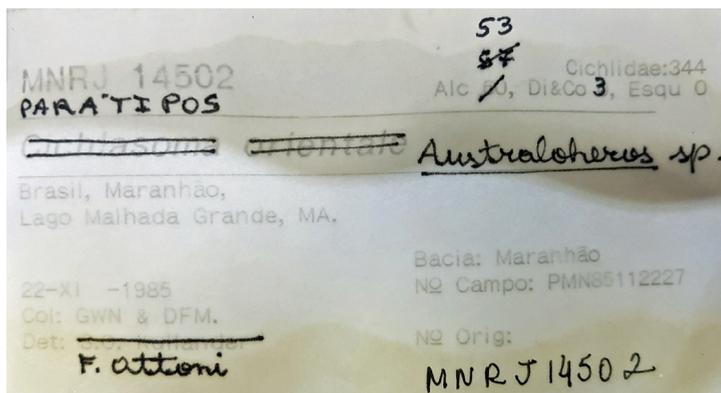


Figure 3 - Label generated from MNRJ's database in 1996.

Location	
Continent	SOUTH_AMERICA
Country or area	Brazil
Country code	BR
Locality	Lago Malhada Grande, MA
State province	Maranhão
Verbatim locality	Lago Malhada Grande, MA
Water body	Norte

Figure 4 - Locality data of MNRJ 14502 (partial screenshot from Backup, 2019).

RESULTS

Although the original handwritten label is broken in pieces, the fragments still allow to recognize that besides ‘Malhada Grande’, ‘1985’, and ‘60 ex.’ it contained no reference to ‘rio Maranhão’ (Figure 2). Another label contained in this jar (Figure 3), which was generated from the database of MNRJ in 1996 states “Bacia: Maranhão”. This information followed the collection’s practice to identify the entirety of the numerous small coastal river basins of the state of Maranhão as a single hydrographic unit. The locality dataset of the paratypes in lot 14502 in the online database of the Museu Nacional - MNRJ (Buckup, 2019) states in the field for water body “Norte”, the North (Figure 4), while no information on a ‘Rio Maranhão basin’ is included therein. According to the backup files of the MNRJ-database, the change from ‘Maranhão’ to ‘Norte’ in the database’s basin field occurred between 2005 and 2015, but no specific moment can be determined.

Otoni must have seen the computer-generated label dating from 1996 and incorrectly assumed that the basin field refers to a ‘river Maranhão’, which does not exist in that state.

The “lago Malhada Grande”, the other component of Otoni’s information, has appeared several times in scientific contributions. Secioso-Santos (1997) listed

Poptella compressa (MNRJ 14253), *Roeboides myersi* (MNRJ 14552), *Hoplerythrinus unitaeniatus* (MNRJ 14150), and *Hoplias malabaricus* (MNRJ 14129) from “Brasil, Maranhão, lagoa Malhada Grande”. Aquino and Schaefer (2010) have examined a specimen of *Hypoptopoma incognitum* (MNRJ 17726) from “Lago Malhada Grande”. The most extensive information was provided by Crampton *et al.* (2016) who reported on *Brachyhypopomus pinnicaudatus* stating “Maranhão. MNRJ 12222, 2, 77-80 mm, mun. Arari, lago Malhada Grande, rio Mearim dr., ca. 03°27’S; 44°46’W”. All these six lots have been collected in November of 1985 (Buckup, 2019). In lots MNRJ 12222 and MNRJ 17726 “G.W. Nunan | D.F. Moraes Jr.” are listed as collectors, while the other four lots contain no information regarding a collector. Unfortunately, these collectors are no longer able to provide firsthand information about the exact locality of the Malhada Grande lagoon.

In addition to these ichthyological records, botanists also have worked on plants from this location. Arbo (2005) and Mezzonato-Pires *et al.* (2015) examined herbal specimens of passionflowers (Passifloraceae) from “Maranhão: Arari, camping area by Lagoa Malhada Grande”.

The information provided by Crampton *et al.* and the botanical papers contain the most complete data, a conclusion supported by a handwritten list of specimens collected by Nunan’s party during the ‘Mearim project’, which is still available at MNRJ. In that list, some species, however not *C. zarskei*, collected in ‘lago Malhada Grande’ were associated with the village of ‘Arariaçu’. A detailed map of Arari (Instituto Brasileiro de Geografia e Estatística -IBGE-, 2011) shows several named and unnamed lakes in the Southern part of Arari’s municipal territory, but none is identified as ‘Malhada Grande’. Still, as the result of Roberto Reis’s (PUCRS) efforts to contact locals who know

the area of Arari, the exact location of the Malhada Grande lagoon (Figure 5) could be pinpointed near the village of Arari-Açu, confirming the above mentioned information.

It is thus confirmed that the Malhada Grande lagoon is situated in floodplain of the right bank of the lower rio Mearim, without any connection with the 'rio Maranhão', as incorrectly listed by Ottoni (2011). The rio Mearim flows into the Baía de São Marcos, next to the ilha (island) do Maranhão, also known as ilha de São Luiz or ilha de Upaon-Açu.

Following Recommendation 76A.2. of the current version of the International Code of Zoological Nomenclature (ICZN, 1999) the type locality as published by Ottoni (2011) for *Cichlasoma zarskei* is found to be partly erroneous and hereby corrected to:

Brazil, Maranhão State, municipality of Arari, Lagoa Malhada Grande, at the Southern end of the road in the village of Arari-Açu, 03°38'46"S; 44°46'01"W, Rio Mearim drainage.

ZooBank registrations for Ottoni's publications and the taxon *Cichlasoma zarskei* are pub: 4578877D-96EF-4E1E-87E1-3FA66CA7BB04 and act: 050DF707-

1D5C-4B66-9211-7B68B8981F9B, respectively. The type locality of the taxon will be corrected in the species' ZooBank entry right after the publication of this note.

The present paper has been registered in Zoobank with pub:EF409818-6FDA-42FD-9B3F-82168D0D9D93.

ACKNOWLEDGEMENTS

Thanks are due to Roberto E. Reis (PUCRS) for his efforts to determine the locality of the Lagoa Malhada Grande by contacting local people in Arari. Jocei Jardim Ribeiro, Secretary of Environment of Arari City, has kindly provided the information on the exact locality of Lagoa Malhada Grande. The geographic coordinates of the lagoon have been taken from GoogleEarth on 10.Jul.2019. An earlier version of the manuscript benefitted from the comments of Roberto Reis and two anonymous reviewers. PAB's research is supported by CNPq, FAPERJ and CAPES.

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Figure 5 - Detail from the IBGE-map of Arari, showing lagoon Malhada Grande marked with an 'x'.

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Recibido: 10/07/2019 - Aceptado: 26/08/2019 - Publicado: 11/11/2019