





Notes and Comments

Distribution extension of *Curimatella immaculata* (Fernández-Yépez, 1948) Curimatidae, Amazon, Brazil

L. P. de Oliveira^{a,b,*} , F. Corrêa^c , R. S. da Silva^d  and L. J. S. Vieira^{a,b} 

^aUniversidade Federal do Acre – UFAC, Laboratório de Ictiologia e Ecologia Aquática, Campus Rio Branco, Rio Branco, AC, Brasil

^bUniversidade Federal do Acre – UFAC, Programa de Pós-Graduação em Ecologia e Manejo de Recursos Naturais, Campus Rio Branco, Rio Branco, AC, Brasil

^cUniversidade do Estado de Mato Grosso – UNEMAT, Programa de Pós-graduação em Ecologia e Conservação, Nova Xavantina, MT, Brasil

^dUniversidade Federal do Pará – UFPA, Programa de Pós-graduação em Zoologia, Campus Básico, Belém, Pará, Brasil

Among the hydrographic basins of the Neotropical region, the Amazon basin presents the richest freshwater fish fauna in the world, consisting of 57 families, 525 genera and 2411 valid species (Reis et al., 2016). New species are described each year, and the estimates exceed 9,000 species (Reis et al., 2016; Birindelli and Sidlauskas, 2018), for the Neotropical region. For the many water resources that form the Amazon basin, the Acre river is a medium-sized watercourse, by the standards of the Amazon basin, running 1190 km from its source, in Peru, to its confluence with the Purus river in the Brazilian state of Amazonas, first passing through Bolivia and then the state of Acre, Brazil (Silva et al., 2020). For the many water resources that form the Acre river basin, the hydrographic basin Quinoá stream (HBQS), a tributary of the right bank, is an important ecosystem that must be conserved for ecological maintenance and balance (Acre, 2012; Corrêa et al., 2018). The family Curimatidae has eight genera and 115 described species (Fricke et al., 2020), five of which belong to the genus *Curimatella* (Eigenmann and Eigenmann, 1889), where they live in South America, east and south Cordilheira of Andes (Vari, 1992). The genus *Curimatella* is distinctive among curimatids by having a significant concentration of small scales covering the middle rays of the both lobes of caudal fins; the patches extend over most of these rays (Vari, 1992). In general, species of the *Curimatella* feed on sediments/debris (Dary et al., 2017; Santos et al., 2020), some fish of this genus are used for food in riverside communities in the Amazon (Begossi et al., 2019). This paper documents the first record and distribution expansion of *Curimatella immaculata* (Fernández-Yépez, 1948) in the Acre River hydrographic basin, Acre, whit highlighting the importance of studies for the region and the better knowledge on its ichthyofauna. The individuals were collected in the HBQS (Figure 1) (31°6'51" S/50°51'16.71" W), that is characterized by anthropogenic environments (dams, degradation of ciliary forest by pasture, accumulation of garbage and sewage from residences), and presents forest fragments in different degrees of conservation, with 1st, 2nd, and 3rd order stream (Acre, 2012; Corrêa et al., 2018). We conducted the fish sampling bi-monthly during a two-

year period, between August/2016 and July/2018 (SISBIO no #11778), according to Corrêa et al. (2015), using the following sampling artifacts: a) trawl of 5 m of length, 2.25 m of height, and 5 mm mesh between adjacent nodes, performing three swipes at each site per collection; b) two dip nets with 5 mm mesh, 30cm of width, and 50cm of length with an effort of 30 minutes of activity; and c) two sieves made of 5 mm mesh, 50 cm of width, and 80 cm of length, using a 30 minute effort at each site per collection. After sampling, we euthanized the individuals using Eugenol (CONCEA, 2013), subsequently, the collected fish were stored in plastic bags, labeled and set at 5% formalin and taken to the laboratory, transferring them to 70% alcohol. In the laboratory, we measured the total weight (TW, g) in grams and, according to Vari (1992), took the following morphometric measurements in millimeters (mm): total length, standard length, head height, body height, tail peduncle height, head length, anal fin length, dorsal fin length, pectoral fin length, pelvic fin length, tail fin length, pre-anal distance, pre-dorsal distance, pre-pectoral distance, pre-pelvic distance, muzzle length, muzzle width, orbital diameter, interorbital distance, and pre-nasal distance. We deposited the fish at the collection of Laboratório de Ictiologia e Ecologia Aquática, Universidade Federal do Acre (MUFAC-IC 993). We collected five individuals of *C. immaculata* (Figure 2), which presented a mean total length of 79.6 ± 4.63 mm and a mean total weight of 7.1 ± 1.78 g. The morphometric measures corroborated with the data obtained by Vari (1992) for *C. immaculata* (Table 1). *C. immaculata* is distinguished from other species of the genus mainly due to the following characteristics: of 29 to 33 scales from the lateral line to the hypural region, 5 or 6 scales in a transverse series from the lateral line to the origin of the dorsal fin, 31 to 33 vertebrae and absence of dark spot on the medial lateral surface of the caudal peduncle (Vari, 1992). In this study, we recorded the distribution of the specie in more than 400 km of the records to Acre state, considering that there are records for the specie in the Tarauacá River (Vari, 1992) and in the upper Juruá River (Begossi et al., 2019). *C. immaculata* is recorded, for example in Madeira River, Rondônia state (more than 700 km from

*e-mail: lucspires10@gmail.com

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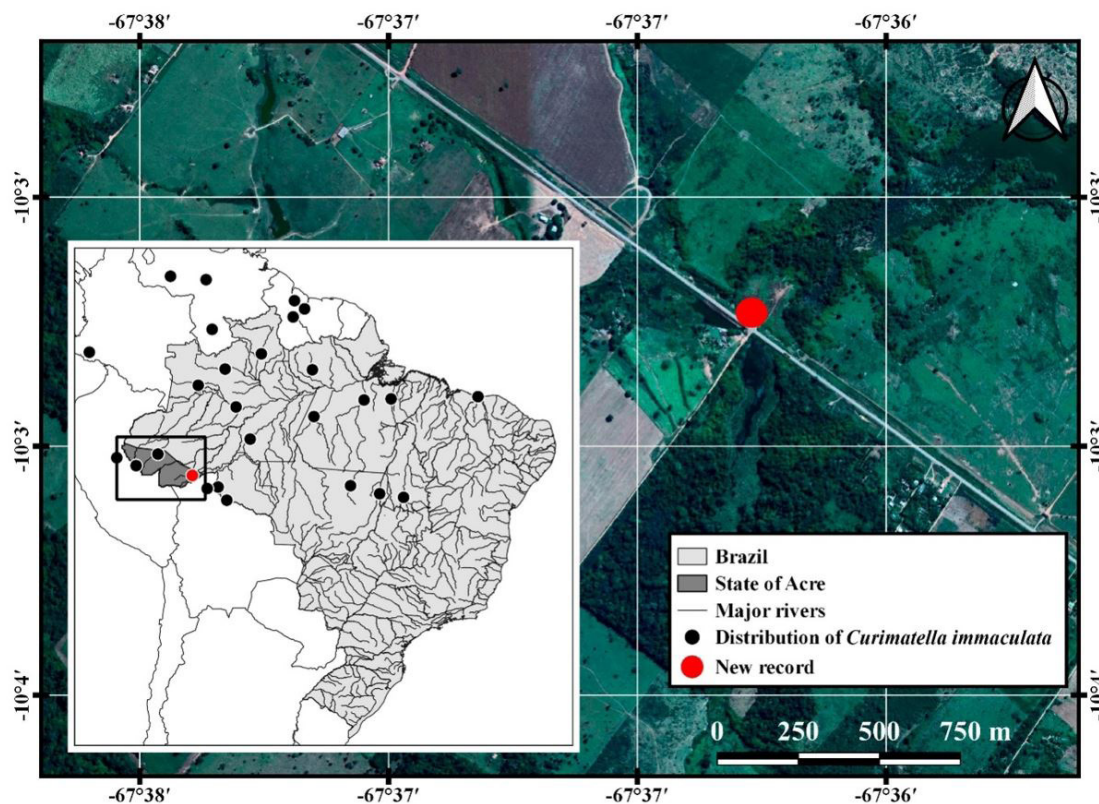


Figure 1. Distribution of *Curimatella immaculata*, where the black dots represent records of the specie (Vari, 1992; Dagosta and de Pinna, 2019), and the red dot indicates the new area of occurrence of the specie in the hydrographic basin Quinoá stream. (Figure by Ronaldo Souza da Silva).



Figure 2. *Curimatella immaculata* collected in the hydrographic basin Quinoá stream, State of Acre, Brazil (Picture by Fabiano Corrêa).

Table 1. Morphometric measures of five *Curimatella immaculata* individuals captured from the hydrographic basin Quinoá stream, Acre, Brazil. SD = standard deviation.

	Low	High	Mean	SD
Total weight	5.5	10.4	7.1	1.8
Total length	75.0	87.0	79.6	4.6
Standard length	57.0	67.0	60.8	4.0
Percentage of the standard length				
Head height	21.2	21.7	21.6	0.2
Body height	35.1	46.6	39.2	4.0
Height of the tail peduncle	12.5	14.0	13.5	0.6
Head length	28.5	32.0	30.4	1.5
Anal fin length	14.1	19.6	17.2	2.0

Table 1. Continued...

	Low	High	Mean	SD
Dorsal fin length	31.4	42.4	35.0	3.8
Pectoral fin length	17.6	19.8	18.6	0.9
Pelvic fin length	18.1	24.6	21.9	2.5
Tail fin length	26.1	30.3	28.5	1.5
Pre-anal distance	80.3	85.1	83.4	1.9
Pre-dorsal distance	44.4	48.0	46.0	1.3
Pre-pectoral distance	29.0	30.7	29.9	0.7
Pre-pelvic distance	51.2	57.6	53.8	2.2
Percentage of the head length				
Muzzle length	22.2	33.4	28.3	3.6
Muzzle width	30.9	35.7	33.1	1.6
Orbital diameter	34.0	37.7	35.6	1.3
Interorbital distance	43.4	49.1	47.0	2.0
Pre-nasal distance	18.0	28.0	23.0	4.1

HBQS), in lake Januári, Amazonas (Vari, 1992) and Santa Ana del Yacuma, Bolivia (Hablützel, 2012), more than 1500 km of sampled locations, among other locations (Figure 1). *C. immaculata* is currently classified as not Threatened in the Red Book of Endangered Brazilian Fauna and not evaluated by IUCN (ICMBio, 2018). We concluded that, the data registered highlight the relevance of ichthyological studies in little explored hydrographic systems, especially in the southwestern Amazon.

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