

Quick Response (QR) Code Use in the Organization of the Medical Malacology Collection (CMM-Fiocruz)

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Introduction: The Medical Malacology Collection (Fiocruz–CMM) was funded in 1993 and it is placed in the Rene Rachou Institute / IRR - The Oswaldo Cruz Foundation in the State of Minas Gerais, Brazil. The Fiocruz-CMM possesses a collection with around 15,000 limnic snails of medical and veterinary importance, mainly from the *Biomphalaria* genus, which can have epidemiologic relevance in the transmission of schistosomiasis. These molluscs come from several places in Brazil and other countries in the Americas and Europe. When received by the National Reference Service in Schistosomiasis of Fiocruz, the *Biomphalaria* snails are examined to verify infection by trematodes, fixed and a cephalopodal portion is forwarded for molecular identification. *Schistosoma mansoni* cercariae are identified at species level and their presence is reported to the organ responsible for sending the mollusk. The information on each sample (species, date, collection point, collector, trematodes' exams results, and the researchers responsible for molecular and morphologic identification) is stored in an electronic Database Index and it is available online in the website of the Center of Reference in Environmental Information (<http://splink.cria.org.br/>). The modernization of collections is a universal necessity, and this necessity implies in the availability of online data and of easy access. Due to the volume of information in the Fiocruz-CMM, alternative tools that make the access and the use of the collection easier and faster, such as the implementation of Quick Response (QR) Codes, are necessary. The QR Codes are 2D barcodes that can contain data in texts, images, or URL formats. These codes can be read by any smartphone through the camera and they ease the access to the information from the Collection. Nowadays, there are free softwares for the creation of QR Codes, already in use by other biological collections. **Methods:** The electronic Database Index available in the intranet was written in a script in PHP language especially developed to create a single archive containing information from each specimen. The original data are disposed in a Microsoft Excel table; the first step was to create a written script in PHP language to read the data in the source table; then, for every read item, it was created a HTML website with a single identifier that corresponds to the number of analyzed sample; after the construction of HTML website it was created, for the corresponding sample, the QR Code. In this code, it is contained the address of the HTML website created which is presented to the device that reads the Code. Each one of these archives (QR Code in PNG format and information in HTML format) was stored in the René Rachou's Institute server. The reading of this QR Code redirects to the archive with the information from each specimen. Anyone porting a cell phone is capable of accessing the data within the QR Code, as long as one is using the Institute's intranet. **Results:** After the creation of the script that works along with the PHP QR Code library, the QR Codes were created from the information within the Database Index. The best code layout was already chosen and the next step will be labeling each flask with specimens from the Fiocruz-CMM. **Conclusions:** This technology will ease the access to all information contained in the Fiocruz-CMM in a fast and complete way, and it will also enable, in the future, the online access of this information through national and international databases about biodiversity that can be used for epidemiologic surveillance of *Schistosoma mansoni* transmitted by *Biomphalaria* snails. Supported by: Fapemig/CNPq/Fiocruz/CAPES