ID 35

A BIBLIOMETRIC ANALYSIS ON THE STATE OF KNOWLEDGE AND RESEARCH NEEDS OF THE MEXICAN POECILIIDS, GOODEIDS AND CYPRINIDS AT RISK

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ABSTRACT

A bibliometric analysis was conducted in order to investigate the research trends and needs of the 111 species of Mexican Poeciliidae, Goodeidae and Cyprinidae at risk listed in the Mexican Red List (NOM-059-SEMARNAT-2010) and the IUCN Red List. We search for abstracts from the ISI Web of Knowledge database using comprehensive and accurate terms regarding our targeted species. We obtained temporal variation of publication frequency by species and, classified and analyzed bibliographic records by the main topics following a modified criterion used by the Sociedad Ictiologica Mexicana. Further, we analyzed conservation related topics by states and years to be able to identify spatio-temporal trends of conservation research in Mexico. We found that the scientific production regarding these species was low (Np= 642) and it was mainly focused on cyprinids and basic science topics such as Development and Morphophysiology, Ecology and Genetics and Evolution. Scientific production has increased since the late 80's in all topics excepting Taxonomic studies. Twenty-six fish species endemic to Mexico did not register any publication, whereas seven species accounted for nearly 50% of the records, being Ameca splendens and Xenotoca eiseni two of the most studied. Other commonly studied species were Poecilia velifera and Girardinichthys multiradiatus. Conservation related research began in 1985 and is practically inexistent in Mexico (Np= 37); it has been conducted almost entirely with goodeids in the Mesa Central region (Jalisco and Michoacan). This study highlights the needing of conduct research with the less studied species (e.g. Allotoca maculata and Xiphophorus gordoni) and encourage their publication due that lack of knowledge about imperiled species limits their conservation. More studies in applied science such as recovering programs, stock enhancement, captive breeding, translocation, habitat restoration, and invasive species control are needed to enhance the current conservation efforts.