Genetic Variation in *Skiffia lermae* (Cyprinodontiformes: Goodeidae) Using the Mitochondrial Gen Cytochrome Oxidase I (COI)

Speaker:

Ana Berenice García-Andrade[1]

Coauthors:

Omar Domínguez-Domínguez[1], D.K. Corona-Santiago[2]

Affiliation:

[1]Laboratorio de Biología Acuática "J. Javier Alvarado Díaz", Facultad de Biología, Universidad Michoacana de San Nicolás de Hidalgo. C.P. 58290. Morelia, Michoacán, México.

[2]Departamento de Biodiversidad y Biología Evolutiva, Museo Nacional de Ciencias Naturales. C.P. 28006 Madrid, España

E-mail:

goodeido@yahoo.com.mx

Skiffia lermae is distributed in the Lerma River basin, including lakes Cuitzeo, Pátzcuaro, and Zirahuén. The present study was conducted in order to know the genetic variation among these populations, and to infer the effects caused by the change on the hydrographic conformation of the basins in northern Michoacán during the Quaternary. Populations were sampled in La Minzita Spring in the Cuitzeo basin (CUI), Zacapu Lake in the Angulo River basin (ZAC) and Chapultepec Spring in the Pátzcuaro basin (PAT). In total, 27 sequences of COI of 627 pb were obtained, six pb were polymorphic and 621 invariant sites. The haplotype diversity (Hd) was moderately high, 0.5947, while the nucleotide diversity (π) was low, 0.0046. There were three haplotypes in total: Two haplotypes in CUI, one of them shared with PAT. The third haplotype was found only in ZAC. In addition, the average genetic distances ($\overline{(Dp)}$) were estimated, a $\overline{(Dp)}$=0.1% between CUI and PAT populations was found. The low differentiation and the shared haplotype between CUI and PAT populations, taking into account that the mutation rate estimated for Goodeids is 0.9% per million years, suggest that the populations were recently connected. Moreover, the genetic distance between CUI-ZAC and PAT-ZAC is $\overline{(Dp)}$=1.0%, suggesting that the population of ZAC has been isolated from CUI and PAT, for around a million years. The isolation of the populations was caused by the tectonic and volcanic activity in the region during the Quaternary.