Association of Genetic and Environmental Resources Conservation (AGERC)
Proceeding of the 5th International Conference of Genetic and Environment, Baghdad, Iraq,
March 27th – 28th 2018

Study of sex determination system in *Mystus pelusius* fish by G – banding technique

[1]Asmaa Sami Ibrahim and [2]Heba Hussein Rasan Sahan
[1]College of Science, AL-Karkh University of Science and [2]College of Education for Pure Science Ibn AL-Haitham, University of Baghdad, Iraq
*Corresponding author: asmaasami@kus.edu.iq

Abstract

The results of karyotyping study in *Mystus pelusius* male and female fish by Giemsa-banding technique (G-banding) showed that the rich regions with Guanine (G) and Cytosine (C) nitrogen bases called (G-light) bands and the rich regions with adenine (A) and thymine (T) called (G-dark) bands, thus it determined more accurately the sister chromosomes in *Mystus pelusius* males and females, more over this technique described sex chromosomes better, it has been observed that most chromosomes in both sexes have (G-light) bands, as all (uniarmed) (telocentric, subtelocentric) autosomes pairs entirely contain (G-light) bands, while in the (biarmed) (metacentric, submetacentric) autosomes chromosomes the light bands concentrated in their telomeres, while the rest regions of these biarmed chromosomes have dark bands. Results of (G-banding) technique showed that the male was heterogamety through an observation of medium sized submetacentric (X) chromosome with (G-light) bands in telomric position of (short arm), while the subtelocentric (Y) chromosome was the larger within the uniarmed chromosomes and it was marked by being entirely dark and lack of (G-light) bands, while it was observed in females a medium sized submetacentric (sm) pairs with (G-light) bands in the telomeric of long and short arms which represents (XX) sex chromosomes, and according to this the females considered to be homogamety and the males heterogamety, and proved that the sex determination system in *Mystus pelusius* fish was a simple sex determination system of (XX/XY) type.

Keyword: Karyotyping, G – banding, sex determination system, *Mystus pelusius* fish.

دراسة نظام التحديد الجنسي في سمكة أبو الزمير العميق *Mystus pelusius* بواسطة تقنية الحزم G – banding

أسماء سامي إبراهيم [1] و هبة رسن صحين [2]
[1] كلية العلوم / جامعة الكرخ للعلوم و [2] كلية التربية للعلوم الصرفة ابن الهيثم / جامعة بغداد
*Corresponding author: asmaasami@kus.edu.iq

الخلاصة

أظهرت نتائج دراسة الهيأة الكروموسومية في ذكور واناث سمكة أبو الزمير العميق *Mystus pelusius* باستخدام تقنية الحزم G-banding technique، المناطق الغنية بالقواعد النتروجينية الكوانين و السايتوسين التي يطلق عليها بحزم G الفاتحة (G-light) والمناطق الغنية بالقواعد النتروجينية الادنين والثايمين التي يطلق