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The key 'Water Bio-Physics' in the statistical study of fish genders' length variations

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Abstract

In all cases the creation of gender may be due the existence of chromosomal DNA however the gender length variations may be due mere water bio-physics. Length variations in inter genders and intra gender is mere due same water bio-physics phenomenon, the study found in fisheries taking *Mystus gulio* as an example species. It is also found depending on nano level differentiation of water bio molecule within the tissue gender characters are expressed. In plant kingdom as well, cosmopolite plants grown in arid climate or physiologically dry soils may be taller than the same plants grown in wetland conditions.

Keywords: Cellular biology, Cellular surface tension, Fish gender, Gender length variation, Statistical significance

1. Introduction

It is known that male fish is taller than female of similar and same ages. The basic scientific reason is mentioned in this research communication. On sampling and study of cellular biology it has been found that significant variation in length due to gender is found in all the species. The reason is more of water bio-physics in different cellular environments of two or more distinct genders. Female cell that forms a tissue are more spherical for greater moisture content owing to more of hydrophilic hormonal bio-molecules compare to male. Such more Hydroxyl (OH⁻) group present in female sex hormone is more hydrophilic in nature. Often an amount of female cells are spherical in shape that restricts them shorter in length compare to opposite gender whose cellular tissues are often may not be spherical always. Spherical cellular structure may be owing to more surface tension in cellular environment of fair sex compare to male. It is true in other situation that female cellular environment is having more moisture as female hormone is more hydrophilic. Greater moisture content in female cellular environment may yield spherical cell and reduced tissue length and as a whole individual height. Reason of spherical cells are owing to surface tension, Cohesion and adhesion. The water bio-physics fact may remain same for all animals in our earth. In fish, male gender is taller than female gender of similar ages found in sampling analysis. Based on sampling fish biology the facts have been found and significant variation is due to gender observed and studied in example species *Mystus gulio*. Female cells that form a tissue are more spherical for greater moisture content owing to more of hydrophilic hormonal bio-molecules compare to male gender. Such are also due to different *Osteocyte* i.e. near spherical and *Fibroblast* i.e. longitudinal cellular tissue concentration in bone cell, as well. Hence conventional length weight relation of fish species may differ due to gender. This phenomenon may found in all the fish species. Analysis carried out in fisheries in these genders issue and found in case of *Hilsa hilsa*, *Cirrhinus mrigala* were tested a male species may attain larger and better cultured for way of most inland species and fisheries.

This holistic study was made with consciously aimed to support inclusive, feminist collaborative work and to prioritize diversity and to save the world (Oreilly *et al.* 2009) [3]. Fish length variables were associated with water areas, temperature and elevation. Mean fish length was also associated with conductivity, but the association between interquartile length range and conductivity was weak (McGrath *et al.* 2008) [2]. Various methods for construction and evaluation of age-length keys are described in the literature (Salthaug Are, 2003) [5]. Christopher *et al.* 2014 have studied telomere length with different ages and sexes of *C. Carpio* but without finding any conclusion. *Oncorhynchus nerka* were analysed to assess lake-specific

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environmental influences on juvenile migration timing, size and survival of fish from a common gene pool (Reed *et al.* 2010) [6].

2. Materials and Method

Hydrophilic groups has tendency to absorb water and various folding are due to several bonds make the bio-molecule, cell, tissue to form globular, as female sex hormone is having more number of hydrophilic groups. Water molecule is bi-polar compound with the two opposite charges, water adhere around the hydrophilic bio-molecule, Cell, Tissue. Surface tension of water is that bio-molecule adhered with water has a tendency to keep maximum surface area for a given volume of mass in the form of bio-molecule/cell or tissue. Sphere has maximum surface area and that helps cell to transmit of exchanges ionic or molecular movements to and from the cell. Once cell or tissue become sphere height is obvious to become lesser which are predominant among female gender. Hence gender height is mere based on water bio physics. Replication, transcription and translation are mere protein or amino acid formation. Above genetic process may not be single gene effects and this is presumed as 'Hydroxyl genes'. Such hydrophilic formation it is mere water and availability at micro or nano level within

the cellular environments viz genders (two/ three/ continuous). Water biophysics make the different gender height that may be significant visually or statistical analysis. Male is taller than female species of similar ages in fisheries as their length difference of definite ages is statistically significant. Based on sampling fish biology the facts have been found and significant variation observed due to fish genders. Study carried out in these genders issue and found in case of Hilsa hilsa, Male species may be 24-30 cm when their age is 7 months whereas female may be 1-5 cm lesser in length of similar ages. Female species may become oval or round in shape due to its tissue structure. *Cirrhinus mrigala* where a male species may attains 27-32 cm long where as a female may attains less, about 26 cm long in just 8 months under favourable condition. The extent of water bio-physics in different cellular environments of two distinct genders. Female cells that form a tissue are more spherical for greater moisture content owing to more of hydrophilic hormonal bio-molecules compare to male gender. Such is also due to different Osteocyte i.e. near spherical and Fibroblast i.e. longitudinal cellular tissue concentration in bone, as well. Length weight relation of fish species may differ due to gender. This phenomenon may be found among all fish species.

Table of Statistical Analysis

<p>----- HYPOTHESIS TESTS FOR MEANS ----- NUMBER OF CASES: 10 NUMBER OF VARIABLES (GENDER): 2 DIFFERENCE BETWEEN MEANS: PAIRED OBSERVATIONS Fish length differs due to gender NUMBER OF CASES: 10 NUMBER OF VARIABLES: 2 HYPOTHESIZED DIFF. = .0000 MEAN = 2.5100 STD. DEV. = .7475 STD. ERROR = .2364 N = 10 (CASES = 1 TO 10) T = 10.6183 (D.F. = 9) GROUP 1: Male GROUP 2: Female. PROB. = 1.084E-06 Fish length variation due to gender is one percent level of significance</p>																																									
<p>Table of Analysis of variance NUMBER OF CASES: 10 NUMBER OF VARIABLES: 2 (M and F) ONE-WAY ANOVA</p> <table border="1"> <thead> <tr> <th>GROUP</th> <th>MEAN</th> <th>N</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>11.020</td> <td>10</td> </tr> <tr> <td>2</td> <td>8.510</td> <td>10</td> </tr> <tr> <td>GRAND MEAN</td> <td>9.765</td> <td>20</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>SOURCE</th> <th>SUM SQRS</th> <th>D.F.</th> <th>MEAN SQR</th> <th>F RATIO</th> <th>PROB.</th> </tr> </thead> <tbody> <tr> <td>BETWEEN</td> <td>31.501</td> <td>1</td> <td>31.501</td> <td>71.009</td> <td>.160E-07</td> </tr> <tr> <td>WITHIN</td> <td>7.985</td> <td>18</td> <td>.444</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td>39.486</td> <td>19</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						GROUP	MEAN	N	1	11.020	10	2	8.510	10	GRAND MEAN	9.765	20	SOURCE	SUM SQRS	D.F.	MEAN SQR	F RATIO	PROB.	BETWEEN	31.501	1	31.501	71.009	.160E-07	WITHIN	7.985	18	.444			TOTAL	39.486	19			
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3. Results and Discussion

Water bio-physics may the prime phenomenon in gender length variation whether inter genders or intra gender. Among the genders length variation is significant and this may be due to the differences of water bio-physics phenomenon. Within gender variation is non significant, however, variation within gender may be same as due to water bio-physics phenomenon. Such phenomenon is owing to differential percentage of moisture contents (may found around 76% and 80% for male and female bodies, respectively). In Culture Fisheries, rearing male fish hence may become more profitable and may be non-ethical. Hypothetically wit, if any, might have negatively

correlated with non spherical phenomenon or due to either non-folding or lacking such hydroxyl bond (Specially in brain tissues). Increasing micro variability of water is to make life bettered both in animal and plant kingdoms. Female species may survive longer period than male due to relatively higher moisture contents i.e. delayed plasmolysis.

4. Acknowledgements

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5. References

1. Christopher I, Terry B, Bronwyn MG, Stephen CD. Variation in Telomere Length of the Common Carp, *Cyprinus Carpio* (Cyprinidae), in Relation to Body Length *Copeia* 2014; 1:87-94.
2. Kathleen ME, Michael SJ, Bruce RE. Length Variation in Age-0 Westslope Cutthroat Trout at Multiple Spatial Scales *North American Journal of Fisheries Management* 2008; 28(5):1529-1540.
3. Kathleen O, Sarah H, farhana S, Nina L. Introduction: Global Perspectives on gender-water Geographies. *Gender, Place and Culture: A Journal of Feminist Geography* 2009; 16(4):381-385.
4. Wersal RM, Madsen JD. Comparative Effects of Water Level Variations on Growth Characteristics of *Myriophyllum Aquaticum*. *Weed Research* 2011; 51(4):386-393.
5. Salthaug A. Dynamic Age-length Keys. *Fishery Bulletin* 2003; 101(2):451-456.
6. Reed TE, Martinek G, Quinn TP. Lake-specific Variation in Growth, Migration Timing and Survival of Juvenile Sockeye Salmon *Oncorhynchus nerka*: Separating Environmental from Genetic Influences *Journal of Fish Biology* 2010; 77(3):692-705.