Review of: "Sex Ratio, Spawning Cycle, and Size at Maturity of Bluespotted Seabream (Pagrus Caeruleostictus, Val 1987) From the Coast of Ghana"

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Potential competing interests: No potential competing interests to declare.

This paper, “Sex Ratio, Spawning Cycle, and Size at Maturity of Bluespotted Seabream (Pagrus Caeruleostictus, Val 1987) From the Coast of Ghana,” has some significant problems, the most important of which is the methods used to identify sex, maturity, and reproductive stages, the core intent of the paper. The authors use a general methods text (Holden and Raitt 1974 [not 1975]), which they do not cite in the 'Literature Cited,' to support their use of macroscopic analyses for identification of sex, maturity, and reproductive stages. But then they state in the 'Discussion,' in the incomplete sentence, “Maturity stages first time using histology in *P. caeruleostictus*.” I am not sure what they did, but they should have used histology or at least microscopic analyses of fresh tissue (squashes) to evaluate reproductive patterns. Being that gonad histology is at the foundation of such a study, doubt is cast upon the rest of the study.

At the end of the ‘Introduction,’ there should be a concise statement as to the objectives of the study, but there is not.

In Materials and Methods, after the sex ratio formulas, the authors cite Heithaus 2001 but do not include the reference in the 'Literature Cited.' There are multiple papers by Heithaus published in 2001.

The formula for GSI is not correct as a research paper, King 1995, (again not in 'Literature Cited'), is part of the formula. Then at the end of this paragraph, the paper by Ghorbel et al. 2002 is not in the Literature Cited. Also, there was no such paper in Google Scholar.

In the Results, the authors state, “The highest number of female individuals was observed in August 2018, November 2018, and July 2019.” However, under ‘Data Collection,’ the authors state that specimens were collected “between January to December 2019.”

In the first paragraph of the ‘Discussion’ section, Gandega et al. (2022) is not cited in the literature cited. Also, neither is Chakroun-Marzouk & Kartas 1987.

In the second paragraph of the discussion, the statement, “GSI is a physiological factor widely used as an indicator of the reproductive success,” is incorrect. GSI is a morphological characteristic used as an indicator of reproductive activity, not success. In the same paragraph, Moslemi-aqdam et al. 2016 is not in the literature cited. In the same paragraph, Owusu-

Boateng (1994) is not in the Literature Cited. El-Sayed & Abdel-Bary 1993 and Hadj Taieb et al. 2012 are not in the Literature Cited. Neither is Buxton 1990.

The authors state: “GSI studies from the study showed a higher average GSI value for females than males suggest that *P. caeruleostictus* are of pair spawning”. This doesn't make sense to me because ovaries are always larger than testes during the reproductive period of fishes because of the size of the gametes--eggs vs. sperm. This does not indicate pair spawning relative to group spawning.

Following paragraph: Mehanna 2007 is not in the literature cited.

The statement in the second to last paragraph of the Discussion: “Gandega et al. (2022) from the Mauritanian coast recorded 28.4 cm and 28.6 cm as the length at first maturity for female and male individuals. This observation maybe in variance to finding from the study which could be attributed to changes in environmental conditions, fishing pressure, food quality and availability, variation in sample size and the sizes of the individuals used in computational procedures” ignores variation in the maturity schedules. In Figures 7 and 8 of this paper, the authors do not calculate variability among the estimates of maturity. That is, the variation about the mean is not considered. Thus, comparing female : male from this paper (27:29, resp.) with another paper (28.4 : 28.6) is likely just statistical variation.

Overall, I suggest that this paper not be published. The authors were very careless and unsystematic in their presentation. And especially because the authors did not use histological or similar microscopic methods to evaluate the gonads--this casts uncertainty on the rest of the paper.