## PeerJ

Biological and Genetic Structure of *Epinephelus costae* (Steindachner, 1878) Population from the Eastern Mediterranean Sea

No		Comment
1.	General:	
	1.	Need to fix grammatical errors.
	2.	The number of digits after the decimal point should be consistent. I
		recommend using three or four digits.
	3.	The literature citation style is also inconsistent. You should use the reference
		manager to ensure your citations and references are written correctly.
2.	Title:	
	1.	J 1
		Mediterranean Sea population of <i>E. costae</i> ? I noticed you used the term
		Iskenderun Bay instead of the Eastern Mediterranean Sea several times in the
		manuscript. Furthermore, the sampling sites you selected also only covered
		Iskenderun Bay and did not explain whether the sites were representative of
	A 1 4	the entire Eastern Mediterranean Sea.
3.	Abstra	
		Research problems need to be explained in this part.
	۷.	Line 32-33: This statement is too early to be written as a conclusion of this
		study. Please see my comments in the Discussion and Conclusion parts for details.
	3	Line 33-37: These sentences are unnecessary and tend to be repetitive.
	3.	Problem statements at the beginning of the section would be much more
		appropriate than these sentences.
4.	Introduction:	
'-		The flow of writing problem statements is not written clearly. You raise
		many issues but do not focus on which problem you want to solve.
	2.	Line 40-50: The main idea of this paragraph is vague, so the problem
		statement is not conveyed well. You stated from Dogdu and Turan (2016)
		about Epinephelidae species becoming endangered, particularly due to the
		increased harvesting by fishermen and alterations to the marine ecosystem,
		but did not state whether the species in this study were included. You should
		focus on raising one issue of the object species, which facts and data must
		support. For example, if you want to raise the issue of overfishing of this
		species, please elaborate on previous publications that say that this species in
		the Mediterranean Sea is declared overfished or overfishing.
	3.	Line 69-75: You stated that there was a limitation of the species, but you
		provided several publications regarding the species' biology and genetics;
		you also provided the details in Table 2 at the same time. These sentences
	3.5 .	were explained contrastly, making the readers confused.
5.		ials and Methods:
	1.	The reason for choosing the sampling sites is not explained well; in this case,
		explaining why the locations were selected for sample collection is crucial.
		The sites only focus on the southern part of the bay. Are the selected
		sampling sites that could be representative of the species' distribution in the
		Eastern Mediterranean Sea, as you mentioned in the manuscript title?

- 2. You should mention the brand, specification, and accuracy of the measuring tools used in this study.
- 3. In estimating the von Bertalanffy Growth Function (VBGF), what approach do you use to determine its key parameters, such as *Linf* and *k*? Do you determine them using Generative AI? If yes, this is highly discouraged because determining the *Linf* and *k* requires the researcher's precision in reading the growth progression from the existing length data distribution.
- 4. What about the method to estimate age groups? I didn't find it in this section. Referring to Figure 4, this distribution graph is not commonly used in length frequency analysis, which is the basis for determining growth parameters. You should distribute the collected length data into length classes and make it a monthly distribution. This is important to see the growth progression, as I mentioned previously.

## 6. **Results:**

- 1. Figure 3: You should change the 'N' (number of population symbol) to 'n' (number of sample symbol); 'Length (cm)' to 'Total Length (cm).
- 2. The same comment with the previous one for Figure 4.
- 3. I am very disturbed by the use of Generative AI to generate Figure 5 and 6, mainly since the manuscript does not explain the method for estimating age groups. These graphs cause misconceptions when reading the collected length data. I strongly recommend you to use various non-AI approaches to analyse length data, such as the Elefan Program in the FiSAT software.

## 7. **Discussion:**

- 1. According to my comments for the Results section, this section also needs adjustment after re-analysis to collect length data. The results may be very different and thus have various interpretations.
- 2. Line 243-444: The *k* value seems incorrect in writing. Please ensure the correct one.
- 3. Line 291-314: You have stated several times that the *E. costae* population in Iskenderun Bay is healthy, but always followed up with contrasting statements, such as the impacts of fishing pressure and climate change, without detailing the specific effects of these events, which is supported by recent literature.
- 4. I strongly suggest you not use the healthy or unhealthy term when discussing your genetic analysis results. You may focus on discussing whether the genetic variation you found is sufficiently susceptible to environmental changes or fishing pressure and connect it to the relevant literature.

## 8. **Conclusion:**

- 1. What is the implication of the finding research to the management of *E. costae* in the Eastern Mediterranean Sea?
- 2. You stated: In conclusion, the biological and genetic analyses carried out within the scope of our study reveal. This statement is ambiguous when I read the Discussion part, where you mentioned that the *E. costae* population is only **genetically** healthy. In addition, the results of your biological parameters analysis also cannot conclude whether the *E. costae* population is healthy or not.
- 3. Please reconsider using the healthy level term to summarize your study results.