When these organisms were studied under infrared light, they were found to vary in color intensity, with *L. rubellus* showing the darkest color. ~~Unlike the natural visibility of benthic organisms, their contrasting infrared visibility~~ Since this species especially flourishes at the bottom of the sublittoral zone, the low color intensity suggests ~~the possibility of~~ another survival strategy against predators. Almost all deep-sea fishes have eyes that are sensitive to light in the blue-to-green visible spectrum because these wavelengths can penetrate deep ~~deeply~~ into the ocean [24]. Malacosteids, however, have retinal pigments that are particularly sensitive to red light, and these fishes have been compared to snipers armed with infrared “snooperscopes” at night [25, 26]. One such predator, the malacosteid *Photostomias guernei*, ~~is reportedly~~ has been reported to be present in the seas around Japan, as well as in Suruga Bay [27, 28]. However, ~~it is unlikely that~~ *L. ~~aqueus~~ rubellus* is likely to remain undetected ~~affected by~~ even by deep-sea fishes with ~~the~~ long-wavelength sensitivity ~~of deep-sea fishes, as it shows the similarly dark appearance of~~ because it resembles dark rocks and skeletal fragments. The appearance of *L. ~~aqueus~~ rubellus* shells under infrared light suggests that ~~Laqueus~~ it has evolved a survival strategy in which its shell behaves optically like a nonliving object ~~on~~ at the bottom of the sublittoral ~~bottom~~zone.

~~4.2. One Likely Possibility for the Evolutionary Arms Race between Sessile Benthic Organisms and Macropredators~~

~~The camouflage strategy of *Laqueus rubellus* to the detection abilities of macropredators~~ Our findings suggest~~s~~ the presence of an intimate and evolutionary interplay or arms race between *L. rubellus* and its predators~~.~~, which in turn suggests ~~This leads to~~ several evolutionary scenarios, as discussed below.

L. ~~aqueus~~ rubellus and ~~the vision systems of~~ its predators may have experienced selective pressure—the former for developing optical evasion ability and the latter for developing ~~detection ability of the~~ photoreceptor ability to detect long-wavelength light~~, respectively~~.

Comment [A32]: A simple restatement of results before the inference here may help readers comprehend the text better, since they may not remember which specific result you are talking about.

Further, your original sentence implied that all the organisms studied showed the same color intensity and hence may share the same strategy under infrared light. But your results specifically mention *L. rubellus* as being particularly dark.

I’ve therefore revised your sentence accordingly.

Comment [A33]: You have referred to such predators *in general* both before this sentence and in relation to *L. rubellus*.

So it is not clear why *Photostomias guernei* is significant. I would advise you to either explain its relevance or remove this specific mention altogether.

Comment [A34]: You have focused on the infrared visibility of only *L. rubellus*, whereas provided data for all the other organisms in the results.

I would recommend that you offer insights comparing the success of all organisms studied, which you’ve said have varying infrared visibilities.

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Each enhancement ~~of~~ in one group of organisms ~~one~~ exerts selection pressure for developing a compensating enhancement ~~of~~ in the other. This is a form of coevolution [1, 29]. In addition to this predator-prey interaction, brachiopod survival ~~on~~ at the sea bottom is also affected by competition among benthic organisms, which belong to a similar guild [30–32]. ~~As a consequence~~Consequently, several species of the benthic community are involved, and their abundances are not independent. This corresponds to the concept of “diffuse (or guild) coevolution” [1].

~~In the modern sea, h~~Highly efficient vision systems are ~~evident~~ seen in teleost fishes and coleoid cephalopods, both of which originated in the early Mesozoic and drastically diversified during the Jurassic [33–35]. Spirifer~~in~~ids, which were one of the most ~~thrived~~ successful brachiopod groups and showed no indications of color [36], became extinct soon after the diversification of these macropredators, even though they had ~~possessed certain morphologies that are considered to be~~ developed ~~exquisite~~ morphological adaptations ~~for~~ of the feeding system that are considered exquisite [37–41]. On the other hand, terebratulids did not become extinct but began to diversify and persisted to the modern era [42]. Considering the improvement over time in the predation abilities of macropredators [43], our results suggest that the red coloration and infrared opacity of terebratulids is an effective adaptation strategy ~~to life~~ for survival at the ~~sublittoral~~ bottom of the sublittoral zone, even though these organisms are immobile and seemingly defenseless.

~~The relationship between the coloration and the apparent evolutionary trend motivated us to consider the etiology of visibility and its evolution.~~ Through biochemical analysis of intracrystalline proteins in the terebratulid shell, Cusack et al. [14] identified the N-terminal amino acid sequence of a 6.5~~-~~kDa protein ~~that may~~ whose function may be to embed a red carotenoprotein in the shell. In this study, the shells of larger ~~Because~~ *L.* ~~*aqueus*~~ *rubellus* individuals ~~shells examined here~~ tended to ~~exhibit~~ have more vivid red coloration~~ in larger~~

Comment [A35]: It’s not clear what the species of the benthic community are involved in. Did you perhaps mean that this predator-prey coevolution is not restricted to *L. rubellus* but also occurs in other species of the benthic community from the same guild since they are competitors exposed to the same pressures?

Comment [A36]: Since your paper focuses chiefly on predator-prey coevolution, it is not immediately clear how diffuse coevolution is relevant in this context. Please elaborate on this.

Comment [A37]: This section of the sentence is not very clear. Did you mean that their coloration did not evolve over time?

Comment [A38]: Statements about motivation behind your study should not appear so late in a paper. I have already added this motivation in the introduction, where it’s more relevant.

Also, “etiology” is the study of causes of diseases and does not appear relevant in this context.

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~~individuals,~~; this indicates that the red pigment is ~~probably~~ deposited gradually during the growth of the secondary shell layer. Because the 6.5~~-~~kDa protein has been extracted from different shell layers in each species, it seems to represent a phylogenetic constraint [44].

~~Enigmatic problems remain in this~~Our hypothesis is yet to explain some problems, namely, the origin of infrared opacity and its evolution. Further studies will be needed to understand how terebratulids in the marine benthic community have evolved in response to increasing predation pressures.

Comment [A39]: It may not be clear to readers how the description of the protein responsible for the coloration is relevant here, or what is significant about the pigment being deposited gradually during the growth phase.

Please add some comments on why these topics are noteworthy in the context of evolution.

Comment [A40]: As written, the discussion seems to end rather abruptly. Please review if you need to mention any study limitations first.

Also, while the future research direction you have mentioned is valid, what peer reviewers may like to know is what broad implications your findings have in this field of study.

I would advise you to review the aims and scope of your target journal and see if you can add specific insights on any study implications that will be of interest and value to the journal's readers.

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