Seafood That Glows In The Dark

Food technology texts mention that certain bacteria can cause seafood to glow in the dark, but they claim that glowing seafood is uncommon and not widespread. Actual occurrences of glowing seafood may be more common than believed because the "glow" is difficult to see except in complete darkness. Most reports of glowing seafood are from restaurants that have large refrigerated storage rooms with light switches, or from consumers seeking a late night snack in the dark.

Marine bacteria including *Alteromonas hanedai*, *Photobacterium phosphoreum*, *P. leiognathi*, *Vibrio fischeri*, *V. harveyi*, *V. logei*, and *V. splendidus* can cause glowing or luminescence when they grow on seafood products. These luminous marine bacteria are common in the marine environment, and on the outer surfaces and in the intestines of marine animals. Some species of *Photobacterium* are in specialized luminous organs of marine fish.

Most of the luminous marine bacteria can grow at temperatures as low as 39°F, and *P. phosphoreum* and *V. logei* can grow at 32°F. These bacteria are able to grow on seafood in the refrigerator, but they require sodium or salt to multiply.

Luminous marine bacteria will not grow on most seafood products because they do not contain enough salt. Some seafood products such as cooked crabmeat, cooked shrimp, and simulated seafood made from surimi have salt added during processing. The added salt is enough to allow luminous marine bacteria to grow on these products.

When seafood glows it means that many luminous bacteria are present. This suggests that the seafood was held for a time and at a temperature where these bacteria could grow. It does not mean the seafood is unsafe or low quality. There are no reports of illness from luminous marine bacteria growing on seafood.

Keep cooked crabmeat, cooked shrimp and simulated seafood products as close to 32°F as possible to slow the growth of luminous bacteria. Consume these products within a day or two after purchase.

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