



## Mini Review

## Do Fishes Hallucinate Human Folks?

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## ABSTRACT

Hallucinogenic fishes are fishes that can create hallucinations if their tissue is ingested. These incorporate certain types of fish found in a several parts of the tropics. The impacts of eating hallucinogenic fishes are rumored to be comparative in a few viewpoints to lysergic acid diethylamide (LSD) or dimethyltryptamine (DMT). The encounters may incorporate distinctive sound-related and visual hallucinations. This has offered ascend to the collective common name "dream fish" for hallucinogenic fish. *Sarpa salpa*, a species of sea bream, is commonly claimed to be hallucinogenic. In 2006, two men who apparently ate the fish experienced mind flights going on for a few days. It is misty whether the poisons are delivered by the fish themselves or by marine algae in their diet.

## INTRODUCTION

Evil hallucinations, both sound-related and visual, describe the marvel known as ichthyoallyeinotoxism, an uncommon harming following the ingestion of certain fish species [1]. These poisoning trigger nervous system disturbances and cause impacts like those of LSD. Ichthyoallyeinotoxism is the official name for getting high on hallucinogenic fish, of which there are numerous, for the most part in tropical zones. Species include *Kyphosus fuscus*, *Kyphosus cinerascens*, *Kyphosus vaigiensis* and the bream fish *Sarpa salpa*, whose impacts mirror LSD or even DMT if eaten the entire fish that possibly leave to encounter alarming visualizations for more than 36 hours [2]. The bream fish *Sarpa salpa* is generally guaranteed to be hallucinogenic [3]. These widely distributed coastal fish are regularly found in the Mediterranean and around Spain, and along the west and south coasts of Africa. At times they are found in British waters because of global warming [4]. They can actuate LSD-like mental trips if eaten. It is otherwise called 'the fish that makes dreams' in Arabic [3-5]. Different fishes that create hallucinations are *Siganus spinus* and *Mulloides flavolineatus* which are called 'the fish that inebriates' in Reunion Island and 'the chief of ghosts' in Hawaii, respectively [6,7].

## SOURCES OF HALLUCINATIONS

Some fish may end up plainly hallucinogenic subsequent to grazing on *Caulerpa prolifera*, a species of green alga that structures thick beds in shallow sandy areas [8]. Additionally embroiled is *Posidonia oceanica*, a seagrass that lives in meadows along the Mediterranean coast [9]. The active agents that cause fantasies in people, and the starting point of these agents, are not clear. A few authors think they could originate from poisons related with macroalgae that accumulate in the tissue of the fish. Poisons from the green algae *Caulerpa prolifera* in the Mediterranean Sea seem, by all accounts, to be involved, just like the seagrass *Posidonia oceanica* [10,11]. At the point when herbivores eat seagrass they ingest algal epiphytes and poisonous dinoflagellates that live on the seagrass takes off.

## SALEMA PORGY

*Sarpa salpa*, Figure 1 referred to generally as the dreamfish, salema, salema porgy, cow bream or goldline, is a species of sea bream, recognizable by the brilliant golden stripes that keep running down the length of its body, and which can cause mind flights when eaten [12-14]. It is found in the East Atlantic, and in addition the Mediterranean, where it ranges from the Bay of Biscay to South Africa [13]. It has once in a while been found as far north as Great Britain [4]. It is commonly found from near surface to a depth of 70 m (230 ft) [14]. Males are regularly 15 to 30 cm (6-12 in) long, while females are generally 31 to 45 cm (12-18 in). The most extreme size is 51 cm (20 in) [13]. *Sarpa salpa* turned out to be generally known for its psych activity following articles published in 2006, when two men ingested it at a Mediterranean eatery and started to encounter numerous sound-related and visual hallucinogenic impacts. These hallucinations, portrayed as alarming, were accounted for to have happened minutes after the fish was ingested and had an aggregate length of 36 hours [4,6,12,15,16].

## CASE STUDIES

As indicated by the article, in 1994, a 40-year-old man felt disgusted around two hours subsequent to getting a charge out of fresh heated *Sarpa salpa* on his excursion on the French Riviera [17]. With side effects like obscured vision, muscle shortcoming and retching enduring and declining all through the following day, he cut his excursion off and jumped in the car, just to acknowledge mid-travel that he couldn't drive with all the shouting creatures diverting him. Disturbance and bewilderment drove him to look for medicinal help (he was not ready to drive any longer as he was seeing giant arthropods around his car). Physical examination upon landing in the hospital emergency room exhibited no striking anomalies: no fever, no indication of centralization or sensory-motor deficit, and ordinary hemodynamic status aside from sinus tachycardia connected straightforwardly to the mental unsettling influences. These monster arthropods are mere hallucinations; obviously, they were the issue that is finally too much to bear. The man guided himself to a clinic, where he recuperated totally following 36 hours. He couldn't recall anything.

That wasn't the main case. The following revealed episode came in 2002, when in the wake of acquiring, cleaning and eating the fish in Saint Tropez, additionally on the French Riviera, a 90-year-old man begun to experience mind flights of shouting people and screeching winged animals [17]. For two evenings he had stunning bad dreams, however he didn't tell anybody, supposing he was building up an emotional sickness. Luckily for him, the impacts of the fish died down following a few days. A couple of journalists have eaten the fantasy fish and depicted their odd impacts. The most popular user is Joe Roberts, a photographer for the National Geographic magazine [12,18]. He cooked the dream fish in 1960. Subsequent to eating the delicacy, he encountered serious hallucinations with a sci-fi topic that included cutting edge vehicles, pictures of space investigation, and landmarks denoting humankind's initially stumbles into space.



**Figure 1:** Salema Porgy (*Sarpa salpa*) (Photo: Tino Strauss).

## NIGHTMARE FOR SCIENTISTS

Making sense of what precisely makes this fish so trippy isn't so natural. Some authors connected the fish's utilization of phytoplankton that develops on the seagrass *Posidonia oceanica*, one of the main components of its diet, with more elevated amounts of toxicity in the fish's organs [12]. This hoisted poisonous quality could be a reason behind why certain *Sarpa salpa* incurs significant injury on people's physical and mental prosperity [19]. For one, it's difficult to pinpoint precisely when this fish can and can't harm you. Evidently, certain body parts, including the fish's head, contain these trippy poisons, though others are psychedelic drug free [3,5,9,11,12]. Also, the season amid which the fish is gotten assumes a part, as well; few authors referred to autumn as the season of year when toxicity was most astounding in the fish. However, the most reports of poisoning, the 2006 report says, are from late spring and summer [12].

## CONCLUSION

It's not clear, however, which poisons are in charge of such a distinctive reaction in the eater. They could be alkaloids of the indole group, compounds occurring naturally in certain algae and phytoplankton the fish eat and which are synthetically comparable in structure to LSD. There isn't enough research yet about the agents that might cause ichthyallyeinotoxism or the specific effects the fish has on those who consume it.

## REFERENCES

1. De Haro L, Prost N, Arditti J, David JM, Jouglard J. Ichthyallyeinotoxism: a rare pathology. *Toxicol.* 1998; 36: 1738-1739. [Ref.:](https://goo.gl/oDHHrU) <https://goo.gl/oDHHrU>
2. Ichthyallyeinotoxism, a.k.a. 'Tripping Balls on Hallucinogenic Fish,' Could Be the Next Big Thing. 2017. [Ref.:](https://goo.gl/7E9gHF) <https://goo.gl/7E9gHF>
3. Bellassoued K, Hamza A, Abdelmouleh A, Makni FA, Pelt JV, et al. Toxicity assessment of dreamfish *Sarpa salpa* from the Gulf of Gabes (Tunisia, Eastern Mediterranean Sea). *Journal of Food, Agriculture & Environment.* 2012; 10: 1308-1313. [Ref.:](https://goo.gl/YA9N9w) <https://goo.gl/YA9N9w>
4. Fish that triggers hallucinations found off British coast. *The Telegraph* May. [Ref.:](https://goo.gl/yCQnZb) <https://goo.gl/yCQnZb>
5. Spanier E, Finkelstein Y, Raikhlin-Eisenkraft B. Toxicity of the saupe, *Sarpa salpa* (Linnaeus, 1758), on the Mediterranean coast of Israel. *Journal of Fish Biology.* 1989; 34: 635-636. [Ref.:](https://goo.gl/6rprcU) <https://goo.gl/6rprcU>
6. Clarke M. Men hallucinate after eating fish. *Practical Fishkeeping.* 2006. [Ref.:](https://goo.gl/u15oMc) <https://goo.gl/u15oMc>
7. Helfrich P, Banner A. Hallucinatory mullet poisoning. *Journal of Tropical Medicine and Hygiene.* 1960; 63: 86-89. [Ref.:](https://goo.gl/yAsqZ3) <https://goo.gl/yAsqZ3>
8. Bellassoued K, Hamza A, Abdelmouleh A, Pelt JV, El Feki A. Antioxidant response in the salema *Sarpa salpa*: Interseasonal correlations with the diet. *Journal of Food, Agriculture & Environment.* 2011; 9: 730-737. [Ref.:](https://goo.gl/fcb1ht) <https://goo.gl/fcb1ht>
9. Chevaldonne P. Ciguatera and the saupe, *Sarpa salpa* (L.), in the Mediterranean: a possible misinterpretation. *Journal of Fish Biology.* 1990; 37: 503-504. [Ref.:](https://goo.gl/H6fj8C) <https://goo.gl/H6fj8C>
10. Kitting CL, Fry B, Morgan MD. Detection of inconspicuous epiphytic algae supporting food webs in seagrass meadows. *Oecologia.* 1984; 62: 145-149. [Ref.:](https://goo.gl/EGvQcP) <https://goo.gl/EGvQcP>
11. De Haro L, Jouglard DE, Thomas MJ, David JM. Intoxications de type ciguatera after eating the Sparidae in Mediterranean". In: Boudoresque CF, Meinsez A, Gravez V. (Eds) First International Workshop on *Caulerpa taxifolia* GIS Posidonie Publ. 1994; 271-274.
12. Meet the Hallucinogenic Fish That Can Give You LSD-Esque Nightmares. [Ref.:](https://goo.gl/uijGua) <https://goo.gl/uijGua>
13. Bizsel C, Kara MH, Pollard D, Yokes B, Goren M, et al. "Sarpa salpa" IUCN Red List of Threatened Species. International Union for Conservation of Nature. 2011.
14. *Sarpa salpa*: Salema porgy Encyclopedia of Life. [Ref.:](https://goo.gl/nkbnSg) <https://goo.gl/nkbnSg>



15. Hallucination fish netted in Channel. The Guardian. 2009. **Ref.:** <https://goo.gl/hEHcTT>
16. Hallucinogenic Fish. 2017. **Ref.:** <https://goo.gl/xz4z13>
17. De Haro L, Pommier P. Hallucinatory fish poisoning (ichthyallyeinotoxism): two case reports from the Western Mediterranean and literature review. Clinical Toxicology. 2006; 44: 185-188. **Ref.:** <https://goo.gl/JdAj72>
18. Roughly TC, Roberts BJ. Bounty descendant live on remote Norfolk Island. National Geographic Magazine. 1960; 116: 575. **Ref.:** <https://goo.gl/edLkLP>
19. Hallucinogenic-fish. 2017. **Ref.:** <https://goo.gl/D4Qqsm>

