



Abstract

# First Recorded Case of Leucism in the Velvet Belly Lantern Shark *Etmopterus spinax* (Squaliformes: Etmopteridae) <sup>†</sup>

Juan Carlos Arronte <sup>1,\*</sup>, Ana Antolínez <sup>1</sup>, Rafael Bañón <sup>2</sup>, José Rodríguez <sup>1</sup>, Juan José Ortiz <sup>3</sup> and Juan Manuel Martínez <sup>1</sup>

- <sup>1</sup> Instituto Español de Oceanografía (IEO-CSIC), C.O. Santander, 39004 Santander, Spain; ana.antolinez@ieo.csic.es (A.A.); jose.rodriguez@ieo.csic.es (J.R.); juanma.martinez@ieo.csic.es (J.M.M.)  
<sup>2</sup> Consellería do Mar, Xunta de Galicia, 15701 Santiago de Compostela, Spain; anoplogaster@yahoo.es  
<sup>3</sup> Facultad de Biología, Universidade de Santiago de Compostela, 15705 Santiago de Compostela, Spain; juanjoortiz42@gmail.com  
\* Correspondence: jcarlos.arronte@ieo.csic.es; Tel.: +34-942-29-17-16  
<sup>†</sup> Presented at the IX Iberian Congress of Ichthyology, Porto, Portugal, 20–23 June 2022.  
<sup>‡</sup> Presenting author (Poster presentation).

**Abstract:** Albinism and leucism are genetically inherited conditions in which the pigment protein, melanin, is either absent or non-functional. The albino phenotype is characterized by the total lack of melanin in both the skin and iris, whereas leucism is the complete or partial loss of skin pigmentation but with a normal iris pigmentation. Colour abnormalities are known to occur in all vertebrate groups. Specifically, in Chondrichthyes, they have been reported in a wide variety of chimaera, ray, and shark species. Here, we report the occurrence of a case of leucism in the velvet belly lantern shark *Etmopterus spinax* (L. 1758), a small-sized (up to 45 cm total length) deep-water squalid shark inhabiting the eastern side of the Atlantic Ocean, from Iceland and Norway to Gabon and the Mediterranean Sea. The normal coloration of *E. spinax* is brown on the dorsal surface, the underside of the snout, and abdomen, with abruptly black and thin black marks above and behind the pelvic fins and along the caudal fin. One specimen of 11 cm TL showing abnormal coloration was caught in the Cantabrian Sea (Northwestern Atlantic) in 2021. The individual was whitish on the body and fins, greyish on the underside of the snout, abdomen, and margin of the caudal fin, and the eyes showed a normal retinal pigmentation. Hence, it was considered a leucistic shark. This is the first record of leucism in the species and the second of hypopigmentation for the genus. In addition, a thorough review of records of albinism and leucism in Chondrichthyans was undertaken. Albinism and leucism have been reported in 61 species (37 sharks, 23 rays, and one chimaera) corresponding to 31 families, accounting for about 4.9% of the known species.

**Keywords:** *Etmopterus spinax*; Shark; Albinism; Leucism



**Citation:** Arronte, J.C.; Antolínez, A.; Bañón, R.; Rodríguez, J.; Ortiz, J.J.; Martínez, J.M. First Recorded Case of Leucism in the Velvet Belly Lantern Shark *Etmopterus spinax* (Squaliformes: Etmopteridae). *Biol. Life Sci. Forum* **2022**, *13*, 48. <https://doi.org/10.3390/blsf2022013048>

Academic Editor: Alberto Teodorico Correia

Published: 7 June 2022

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**Author Contributions:** Conceptualization, J.C.A., A.A. and R.B.; methodology, J.C.A., A.A. and R.B.; formal analysis, J.C.A. and A.A.; investigation, A.A., R.B. and J.C.A.; writing—original draft preparation, J.C.A., A.A., R.B. and J.R.; writing—review and editing, J.C.A., A.A., R.B., J.R., J.J.O. and J.M.M. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** No data availability statement necessary as there are no data.

**Conflicts of Interest:** The authors declare no conflict of interest.