

ISTIOPHORUS PLATYPTERUS IS THE VALID SCIENTIFIC NAME FOR THE SAILFISH IN THE ICCAT AREA

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SUMMARY

After many years of discussions and according to the most recent scientific papers published, it is now clear that the scientific name of the sailfish adopted by ICCAT in its Convention area (Istiophorus albicans) is the synonym of the worldwide-accepted Istiophorus platypterus. In particular, the recent genetic studies confirmed that there are no significant differences for justifying two different names for the same species. Therefore, this short paper summarises the recent findings and the solid motivations for updating the name in the ICCAT Convention area and in the ICCAT statistical system.

RÉSUMÉ

Après de nombreuses années de discussions et selon les documents scientifiques les plus récents publiés à ce jour, il est désormais clair que le nom scientifique du voilier adopté par l'ICCAT dans la zone de sa Convention (Istiophorus albicans) est le synonyme de Istiophorus platypterus accepté dans le monde entier. En particulier, les récentes études génétiques ont confirmé qu'il n'y a pas de différences significatives justifiant deux noms différents pour la même espèce. Par conséquent, ce bref document résume les résultats récents et les motivations solides pour la mise à jour du nom dans la zone de la Convention de l'ICCAT et dans le système statistique de l'ICCAT.

RESUMEN

Después muchos años de discusiones y de acuerdo con los trabajos científicos más recientes publicados hasta la fecha, ahora está claro que el nombre científico del pez vela adoptado por ICCAT en la zona de su Convenio (Istiophorus albicans) es el sinónimo del aceptado a nivel mundial Istiophorus platypterus. En concreto, los recientes estudios genéticos han confirmado que no existen diferencias significativas que justifiquen dos nombres distintos para la misma especie. Por lo tanto, este breve documento resume los hallazgos recientes y las sólidas motivaciones para actualizar el nombre en la zona del Convenio de ICCAT y en el sistema estadístico ICCAT.

KEYWORDS

Sailfish, Istiophorus platypterus, Istiophorus albicans, systematics, taxonomy, genetics, official name, statistics, ICCAT

1. Foreword

Since many decades, following the indication from Nakamura (1983, 1985, 1990), ICCAT considered the sailfish in its Convention area under the name of *Istiophorus albicans* (Latreille, 1804), while *Istiophorus platypterus* (Shaw, 1792, in Shaw and Nodder, 1792) was the name adopted in all other areas of the Ocean and by all other tuna-RFOMs. In recent years, the IOTC and IATTC have been including *I. platypterus* in their statistics with the related FAO code SFA, while ICCAT includes *I. albicans* in its statistics with the related FAO code SAI.

The name *Istiophorus albicans* is reflected also in the current ICCAT Manual (Arocha and Ortiz, 2006).

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FishBase has a contradiction on its site, because it reports *I. platypterus* distributed in all temperate, tropical and equatorial parts of the Ocean including the Atlantic, while *I. albicans* is reported as present only in the temperate, tropical and equatorial parts of the Atlantic, including the Mediterranean Sea, generating confusion because the two named species show no morphological differences.

Furthermore, Froese and Pauli (2024) reported in the World Register of Marine Species (WORMS) *Istiophorus platypterus* as the species distributed in the Indo-Pacific and in the western Atlantic, but they also reported *Istiophorus albicans* distributed in the western Atlantic, the Indian Ocean and in the eastern Mediterranean Sea.

Di Natale and Collette (2024) recently discussed the issues related to the species identification of the sailfish, but the ICCAT SCRS, in September 2024, requested further details before adopting an official position about the correct scientific name to be used in ICCAT following the most recent findings.

The present document summarises recent and decisive findings about the sailfish that help clarify the systematics of the species and its taxonomic status.

2. Morphology

As reported by Di Natale and Collette (2024), Nakamura (1983, 1985) separated Indo-Pacific populations of sailfish from the Atlantic one, but there is no genetic evidence to support this. Sailfish were provisionally separated on the above quoted studies based on whether the pectoral and caudal fins are comparatively short, in Indo-Pacific *I. platypterus*, or slightly longer in Atlantic *I. albicans* (immature specimens up to about 90 cm body length). Nakamura, in 2003, stated that *I. platypterus* and *I. albicans* might be the same species, but preferred to follow the current usage and kept the Atlantic *I. albicans* separate. However, Morrow and Harbo (1969) failed to find any differences in pectoral fin length between populations of sailfish, or any other morphometric or meristic characters. When the two species were considered, the Indo-Pacific sailfish was reported to attain a larger size than Atlantic sailfish (Nakamura, 1985), based on the data available at that time.

3. Genetics

As reported by Di Natale and Collette (2024), Graves and McDowell (1995), using restriction fragment length polymorphism (RFLP) analysis of mitochondrial DNA, found that the presence of identical haplotypes in samples from each of the three species-pairs of billfishes suggests that specific status may not be warranted for any of the Atlantic and Indo-Pacific populations (these three pairs are the Sailfish, Blue Marlin, and White-Striped marlins).

Later, McDowell (2002) carried out a comprehensive genetic study of *Istiophorus platypterus* and her results were included in Collette *et al.* (2006), that concluded: “There is no genetic evidence in the mtDNA control region to indicate that the Atlantic (*Istiophorus albicans*) and Indo-Pacific (*Istiophorus platypterus*) sailfishes are separate species (Collette *et al.* 2006). However, there are two distinct mtDNA clades, both evident in the Atlantic while only one is found in the Indo-Pacific (McDowell, 2002). There is also no difference in pectoral fin length or in any other morphometric or meristic characters between Atlantic and Indo-Pacific populations of sailfish (Morrow and Harbo 1969, McDowell 2002). There is no evidence that the Atlantic and the Indo-Pacific populations are separate species”.

As reported by Di Natale and Collette (2024), a genetic work from an evolutionary perspective carried out by da Silva Ferrette *et al.* (2021) reported the following: “The goal herein is to evaluate the phylogeography of sailfish *Istiophorus platypterus* between the Atlantic, Indian, and Pacific oceans. Our results evidenced a high genetic diversity and three distinct populations among the ocean basins with limited gene flow among them. In addition, the species is characterized by two deep evolutionary lineages that diverged during the Miocene/Pliocene transition, one of them is circumtropical while the other is restricted to the Atlantic Ocean. These lineages evolved along the successive glacial-interglacial cycles from the Pleistocene and remained isolated from each other in glacial refugium until deglaciation”. Even here, the authors considered a single species of *Istiophorus* with different populations.

The most recent study (da Silva Ferrette *et al.* 2023), carried out with advanced techniques and already included in Di Natale and Collette (2024), concluded again that there is one single species of *Istiophorus* in the world Oceans, namely, *Istiophorus platypterus*. They state: “...we presented a novel high-quality reference genome for the species and applied a seascape genomics approach to understand how marine environmental features may

promote local adaptation and how it affects gene flow between populations. We delimit two populations between the Atlantic and Indo-Western Pacific oceans and detect outlier loci correlated with sea surface temperature, salinity, oxygen, and chlorophyll concentrations. However, the most significant explanatory factor that explains the differences between populations was isolation by distance. Despite recent population drops, the sailfish populations are not inbred⁹. Therefore, da Silva Ferrette *et al.* (2023) confirmed that there is one single species, *Istiophorus platypterus*, and two different populations having short-term migrations within each ocean.

4. Systematics

Since 1870, the most authoritative publication for the zoological literature is the Zoological Record that is the unofficial record of zoological names. BIOSIS developed the Index to Organism Names (ION)⁵, a free and freely accessible database that serves as an index to those names published in the Zoological Record. The ION includes both *Istiophorus platypterus* and *Istiophorus albicans* as valid names, with no crossing synonyms, without entering into the taxonomic issue.

The International Commission on Zoological Nomenclature⁶, founded in 1895, is another international body for listing the official names of the species, but its specific and unique role is the maintenance of international standards in animal nomenclature. It is not the role of the Commission to become involved in taxonomic issues except where they have nomenclatural implications. Searching on the ICZN site for either *Istiophorus albicans* or *Istiophorus platypterus* shows no results.

The Encyclopedia of Life⁷ (Parr *et al.*, 2014) is a reputed site, launched in the current version in 2018, participated by important institutions. Its mission is to increase awareness and understanding of living nature through an Encyclopedia of Life, that gathers, generates, and shares knowledge in an open, freely accessible and trusted digital resource. It includes many information on individual species. The Encyclopedia of Life has both *Istiophorus platypterus* and *Istiophorus albicans* as valid names, but the source is FishBase in Species 2000 and, therefore, there are the problems mentioned in the introduction part of this paper.

The Catalogue of Life⁸ (COL) is a collaboration bringing together information from taxonomists studying every group of organisms to construct an integrated view of currently accepted species across all taxonomic groups. The COL has both *Istiophorus platypterus* and *Istiophorus albicans* as valid names, but the source is again FishBase and, therefore, there are the same problems mentioned in the introduction part of this paper.

The most reliable, updated and complete web site for the systematics of fish species is currently the Eschmeyer's Catalog of Fishes⁹ (Fricke *et al.*, 2025), initially created by William M. Eschmeyer at the beginning of 1980s, which is continuously revised and updated, according to published scientific papers on the many fish species. The Catalog includes *Istiophorus platypterus* (Shaw, 1792, in Shaw and Nodder, 1792) as the valid name for the species, having a circumglobal distribution in tropical and warm temperate seas (including Gulf of Mexico, Caribbean Sea, Mediterranean Sea, Red Sea, Persian Gulf, Sea of Japan, Gulf of California/Mexico). The Catalog includes an extensive list of bibliographic references for this species.

Therefore, *Istiophorus albicans* (Latreille, 1804) is clearly defined as synonym of *Istiophorus platypterus* (Shaw, 1792). The Catalog includes the available references for this name.

5. Conclusions

This short review of the most relevant information about the sailfish in the Atlantic confirms the IUCN recent assessment¹⁰ (Collette *et al.*, 2022) that there is just one species of sailfish in all temperate, tropical and equatorial parts of the Ocean, *Istiophorus platypterus* (Shaw and Nodder, 1792).

As discussed above, the morphological differences, based on few immature individuals of both species (Nakamura, 1983, 1985), are currently considered within the variability of the species (Collette *et al.*, 2022).

⁵ <http://www.organismnames.com/>

⁶ <https://www.iczn.org/>

⁷ <https://www.eol.org/>

⁸ <https://www.catalogueoflife.org/>

⁹ <https://www.calacademy.org/scientists/projects/eschmeyers-catalog-of-fishes>

¹⁰ The species was assessed by IUCN as "Vulnerable"

The genetic evidence is strong in defining one single species (*Istiophorus platypterus*), as detailed and clarified by the Catalog of Fishes, including the important taxonomic point of view, worldwide distributed in temperate and tropical oceanic waters, with two different populations, one in the Atlantic and the other in the Indo-Pacific.

The incidental presence of the species in the Mediterranean Sea (Albania; Algeria; Croatia; Italy; Lebanon; Libya; Slovenia; Tunisia) is considered as occasional and therefore it is there as vagrant species. The rare catches are reported as by-catch in some large-pelagic fisheries.

Therefore, based on the evidence presented in the current document and repeating the recommendation in Di Natale and Collette (2024), we consider that the SCRS BIL SG should request the SCRS the following:

- to support the adoption of the scientific name of the Sailfish to *Istiophorus platypterus* (Shaw, 1792, in Shaw and Nodder, 1792), FAO species code SFA, as the valid species name for the ICCAT Convention area, and consider *Istiophorus albicans* (Latreille, 1804) as synonym for the valid species.

6. Acknowledgements

The authors would like to thank Prof. Fausto Tinti of the University of Bologna (Italy) for his kind availability for deeply discussing the genetic of *Istiophorus platypterus* according to the most recent approaches and techniques. His knowledge and support have been very much appreciated.

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