

# Bibliography Database of living/fossil sharks, rays and chimaeras

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## Introduction:

[Shark-References](#) is an on-line data base that contains a scientific bibliography of extant and extinct sharks, skates, rays and chimaeras (Chondrichthyes). The data base was started in June 2009 with a data inventory of about 1,000 scientific references. Since then, it has expanded continuously and today contains more than 25,000 publicly available references. At the beginning, the concept intended to create a scientific bibliography only, but in the meantime the provided information comprises several further topics. Here, some of the webpage's modules are introduced:

## Bibliography:

Besides the standard biographical information, e.g. author, year of publication, title, location, DOI, abstract, the bibliography additionally offers keywords, such as "time", "place", "names of species" and "synonyms".



Figure 1: Screenshot from <http://shark-references.com/literature/listAll/A>

## Type data base:

Information on particular types of first descriptions (holotypes, paratypes, etc.) either originates from first descriptions directly or comes from shark-reference's type data base ([Menu: Type data base](#)). This data base lists all types with more than 6,700 entries and links to the collection locations. More information is provided by clicking on the information symbol. Further, species information and site of first record of more than 3,000 types are shown in a Google-map.

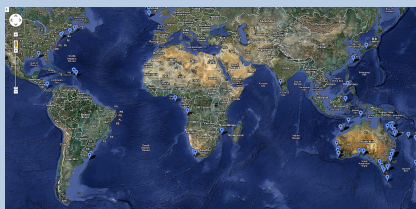


Figure 2: Google-map of types

## Species descriptions:

The species description module provides the user with all available information on particular species such as general information on biology, distribution and images, if available. The type database is linked to the species descriptions.

## Digital versions of 1st descriptions:

The menu item "bibliography – first description" contains numerous digitalized first descriptions of fossil species, which are free to download. Further "historic" publications are featured (e.g. Louis Agassiz, Recherches sur les poissons fossiles. Volume 3, 1843).

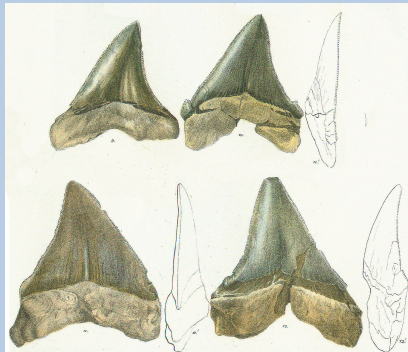


Figure 3: Recherches sur les poissons fossiles, Table 30, fig. 9 - 12

## Statistics:

Currently the website is regularly accessed by users from > 80 countries. The emphasis of geographic distribution is in Europe and North America. The "top ten" countries from March 2018 are shown in Figure 4.

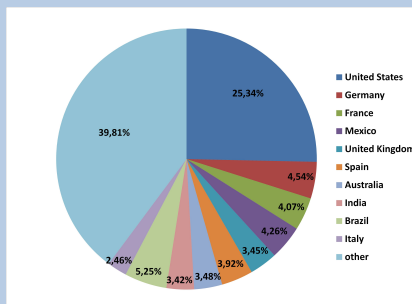


Figure 4: "top ten countrys" from March 2018

## Number of users:

The number of visits has increased continuously since our start. Starting with 160 visits per month in June 2009, almost 2,700 visitors used the data base in December 2010. In October 2012, for the first time, more than 10,000 visitors used the website. To date, our websites counted more than 1,000,000 page views. Since 2011 we further added a facebook page, where latest scientific articles and other news are posted. The facebook page is used by more than 6,500 users (likes).

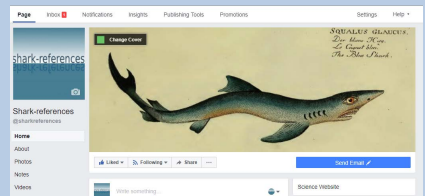


Figure 5: Screenshot from facebook

## how to participate:

[Shark-References](#) would kindly like to ask you for your contribution to this project. Users can participate in different ways:

Please send us missing references.

Send us your publications that are not incorporated so far (which is indicated by the missing info symbol at the quotation).

Pictures of sharks, skates, rays and chimaeras are welcome. Image credits will be given to appropriately.

If you notice mistakes, incomplete links or you have access problems please let us know.

If you have information for the monthly newsletter please contact us.

Subscribe to the monthly newsletter or visit [www.shark-references.com](http://www.shark-references.com) on facebook regularly and tell your friends.

If you have wishes, suggestions and corrections – let us know.

## Conclusions:

Shark References is THE tool for literature research used by both generally interested in sharks, rays and chimaeras as well as researchers and students. The database can be accessed by author or species linking to each other as well as the type database. External links to other resources are provided, such as Genbank or BOLD, further facilitating research on cartilaginous fish species.