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"Small delphinids" identification:

from scientific confusion to conservation issues

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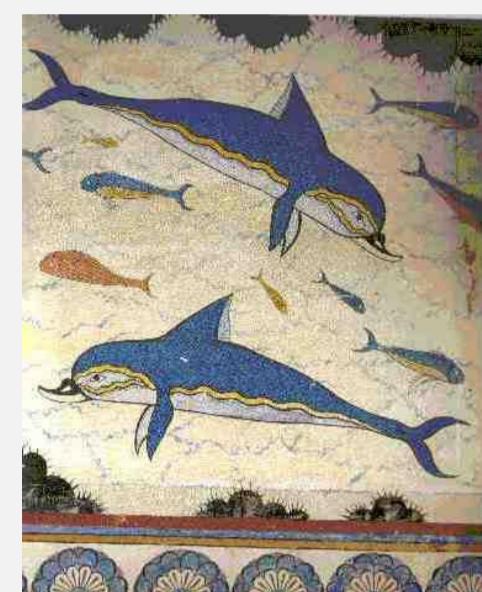
INTRODUCTION

Small delphinids have been confused since ancient times; unfortunately it is still the case for other reasons.

Ancient scientists as Aristotle distinguished cetaceans from other marine animals like fishes.

According to Aristotle : « Δελφίς δὲ καὶ φάλαινα καὶ τὰ ἄλλα κήτη, σσα μὴ ἔχει βράγχια ἀλλὰ φυστήρα, ζωτοκούσιν », *The History of Animals*, VI, 11. (The dolphin, the whale, and all the rest of the Cetacea, all that are provided with a blow-hole instead of gills, are viviparous.)

« Μαστούς δέ ἔχει σσα ζωτοκεῖ καὶ ἐάυτοῖς καὶ ἔξω, οἶον σσα τε τρίχας ἔχει, ὥσπερ ἄνθρωπος καὶ ὕπτος, καὶ τὰ κήτη, οἶον δελφίς καὶ φώκαινα καὶ φάλαινα καὶ γάρ ταῦτα μαστούς ἔχει καὶ γάλα. » *The History of Animals*, III, 16. (All viviparous animals have udders, either because they produce their young in themselves or because they produce them outside, and also all viviparous animals have hair, such as humans and horses, or among cetaceans, dolphins, porpoises and whales; for the latter animals also have udders and milk.)



The famous Knossos palace...

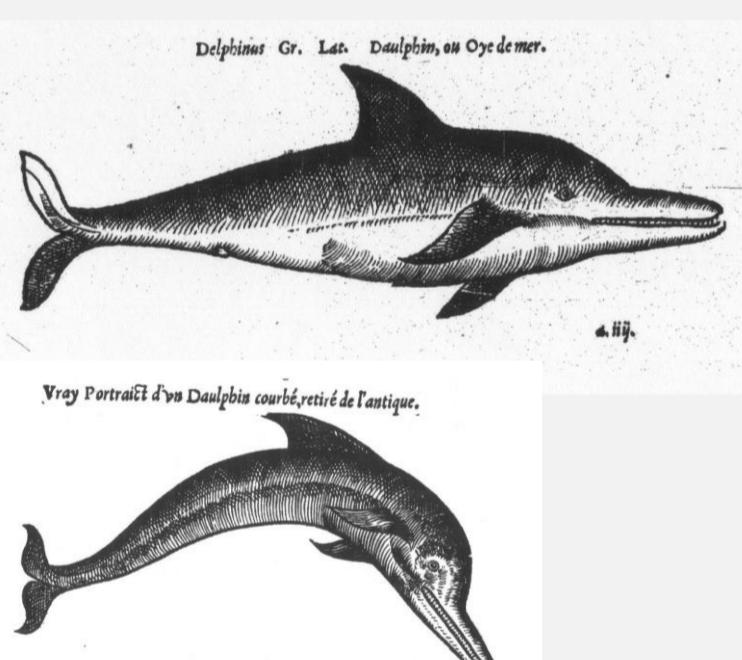
"The dolphin" can be the generic name of one family (different from seals and whales). However, δελφίς and φώκαινα must be also distinguished: « Οὐμώνδε τῷ δελφίνι καὶ ἡ φώκαινα καὶ γάρ ἑστιν ὅμοιον δελφίνι μικρῷ, γίνεται δέ ἐν τῷ Πόντῳ. Διαφέρει δὲ φώκαινα δελφίνος ἔστι γάρ τὸ μέγεθος ἔλαττον, εὐρύτερον δέ ἐκ τοῦ νύτου τὸ χρῶμα ἔχει κυανοῦν. Πολλοὶ δὲ δελφίνων τι γένος εἴναι φασι τὴν φώκαιναν » *The History of Animals*, III, 16 (The porpoise is like the dolphin, to which it looks like a small one. He lives on the Bridge [Black Sea]. The porpoise differs from the dolphin: first it is smaller; it also has a wider back; and its colour is dark blue. Many people say that the porpoise is only one variety of the dolphin.)

Natural history's criteria are first anatomical characteristics (dolphins are marine mammals); secondly, appearance and size (dolphins and porpoises are neither seals nor whales); thirdly (ecology: place and way of life).

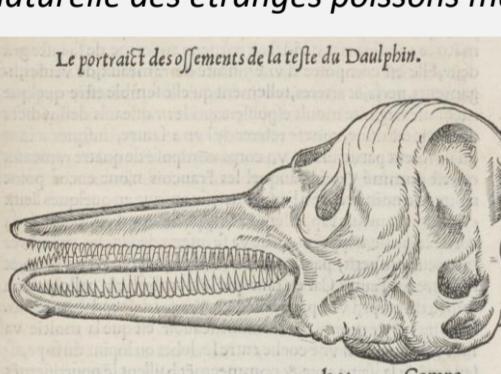
In fact, dolphins in the Mediterranean Sea were maybe too frequently observed (alive or stranded) to generate real attention to them. The qualification of a common small delphinid as "common dolphin" discouraged observers from questioning the accuracy of this taxonomy.

But striped dolphins were certainly quite frequent in reality.

During the Renaissance, scientists (as Belon, Rondelet, Gessner...) took over these categories inherited from Greek and Roman science... and *Delphinus delphis* was still considered as the most common dolphin in the area.

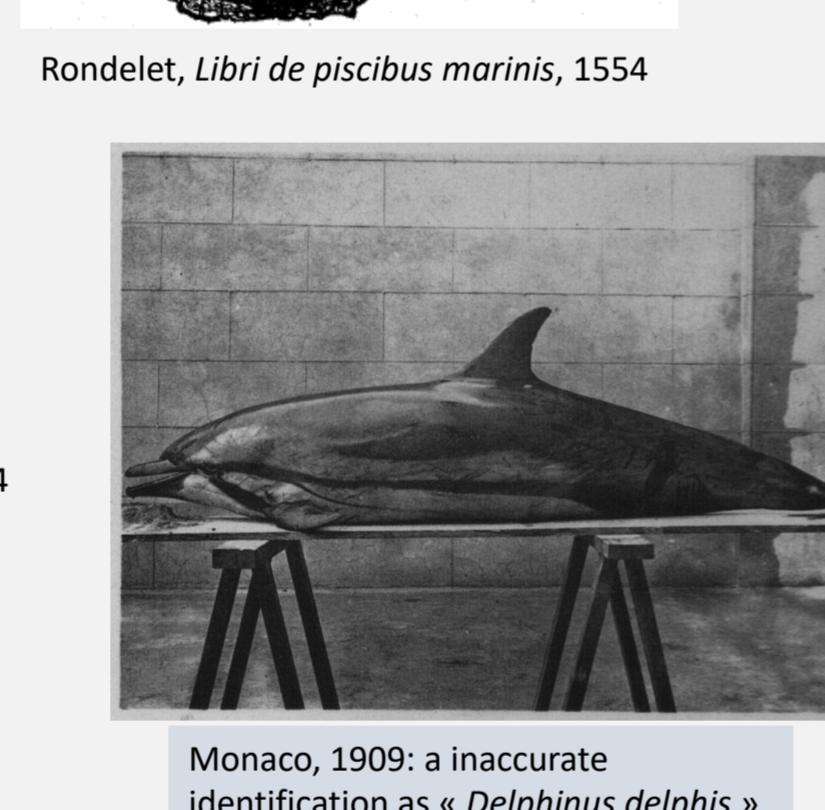


P. Belon, Histoire naturelle des étranges poissons marins, 1551



However, Rondelet (1554) already explains onomastic difficulties and potential identification errors.

V. I. A Græcis διλφίς vel δλφίς & δλφίνιος, à Latinis non mutata nomine delphin vel delphinus, & delphinus dicuntur, ab accolis maris mediterranei delphin vel dolphin, à quibusdam oceani accolis marinus vel merophorus, qualis maris suum dicatis Galis bœdye, quod prominentiae ritrolo. Cognominatur: i. p. hys & staudupas & φωκαίραν ab amore, quo pueros & homines protegeuntur, & Simo, quodd he nomine deceleretur. Nonnulli delphini berelloz vocant, eo quid (v. Alberti verbis vtar) ante naues aquam euomant. Delphinus tanquam genus phœnam sub cōprehendit teste Arist.: quon scribit phœnam delphino simile esse, sed minor, & à com. pluribus delphini genus esse existimat. Et Alianus de Taprobane in libro pīcibus loquens, balenaz delphini insidiari scribit, horum duo genera illuc nasci: alterum serum & inexorabilis inhumanitate pīcatoribus infelū malerunt natura manefacture circum homines natare, & more canū blandiri, & se contra eam lutinere, acq. obiectum cibū sumere. De delphino ex qui omnibus notior est, & hominum amans primum dicimus, cuius partes tum internas tum externas co diligen tū explicabimus, quod plura ab Arisforde, Plinio, ceterisque probatis

Monaco, 1909: an inaccurate identification as « *Delphinus delphis* »

DISCUSSIONS ABOUT A « *DELPHINUS DUBIUS* »

G. Cuvier described in 1812 a group of stranded dolphins, which Desmarests in 1820 records after him as *Delphinus dubius*. This dolphin is known only by skulls kept in the Museum of Natural History in Paris.

This « *Delphinus dubius* » according to Desmarests 1820 seems very similar to *Delphinus delphis* (number and shape of teeth, shape of maxillary bones, ...) and is likely to be an early identification of a *Stenella coeruleoalba*.

But for Cuvier in 1829 the « *Delphinus dubius* » seen off the African coast becomes the species now known as the "*Stenella frontalis*".

The word "*Stenella*" is a "looking like Latin" onomastic invention due to Gray (1866); but the name *Stenella coeruleoalba* was definitively adopted after long trial and error: *Delphinus euphrosyne* (Gray, 1846), *Delphinus styx* (Gray, 1846), *Delphinus lateralis* (Peale, 1848), *Delphinus tethys* (Gervais, 1853), *Clymenia dorides* (Gray, 1866), *Clymenia similis* (Gray, 1868), *Clymenia euphrosynoides* (Gray, 1868)..

In the same time the discussion about the « dubious dolphin » came to an end with Paul Gervais in 1853: he clearly distinguished three species: *Delphinus delphis*, which is the dolphin Ancient Greeks called « *delphis* »; *Delphinus dubius*, smaller than *Delphinus delphis*, mainly on Atlantic coasts; and « *Delphinus tethys* » (P. Gerv.) », a little larger than *D. delphis*, with almost the same number of teeth, but without palatal groove.

CONCLUSIONS

"all these incomplete indications are only used to torture naturalists."
(Georges CUVIER, *Recherches sur les ossements fossiles de quadrupèdes...*, 1823, p.278)

Taxonomic confusion can lead to misestimation of the exact population of small delphinids: erroneous name or generic term (as "porpoise", or "dolphin"), negligent observation of frequently seen dolphins led to confusion between at least two species.

The "common dolphin" was considered as being the most ... common in the northern shores of the Mediterranean Sea, whereas it may have not be the case since centuries.

As *common* and *striped* dolphins were not distinguished as being different species, perhaps to the late fifties, and due to lack of accurate data as well as lack of universally adopted name for the *Stenella coeruleoalba*, their real conservation status was certainly biased.

"The idea put forward by some authors that the species was once abundant in the Mediterranean and that it was replaced, in the last quarter of the 20th century, by *Stenella coeruleoalba*, has no serious basis. The simplest explanation is that these species were confused until the early 1970s, and that the previously observed *S. coeruleoalba* were mistaken for *D. delphis*." (Robineau, 2005, p.399)

REFERENCES

- ARISTOTLE, Περὶ τὰ ζῷα ιστορίων, *The History of animals*, ~345 a.d.
- BEARZI Giovanni, REEVE Randall R., NOTARBARTOLO Di SCIARIA Giuseppe et al., «Ecology, status and conservation of short-beaked common dolphins *Delphinus delphis* in the Mediterranean Sea », *Mammal Rev.* 2003, Volume 33, No. 3, 224–252
- BELON Pierre, *Histoire naturelle des étranges poissons marins*, Paris, Regnault Chaudiere, 1551
- CUVIER Georges, *Recherches sur les ossements fossiles*, Paris, Dufour et d'Ocagne, 1823, Tome 5, Partie 1
- DESMARETS Anselme Gaëtan, *La Mammalogie : ou description des espèces de mammifères*, Paris, Veuve Agasse, 1820
- GARNIER Alexandre, « Distribution comparée du dauphin commun (*Delphinus delphis*) et du dauphin bleu et blanc (*Stenella coeruleoalba*) en Méditerranée occidentale », *Revue d'Écologie (Terre et Vie)*, Vol. 72 (4), 2017 , 335-352
- GERVAIS Paul, *Histoire naturelle des mammifères*, Paris, Curmer, 1855; « Cétacés des côtes françaises de la Méditerranée », *CR hebdo. Séances Acad. Sci.*, 1864, 59: 876-881.
- GIGLIOLI Enrico Hillver, *I Cetacei osservati durante il Viaggio intorno al globo della R. Pirocorvetta Magenta (1865-68)*, colla descrizione di alcune specie nuove o poco note e di un nuovo genere della famiglia Balenopteridae, Memoria de, Naples, Stamperia della regia università, 1874
- MEYEN Franz, *Reise um die Erde ausgeführt auf dem Königlich preussischen Seehandlungsschiffe Prinzess Louise, commandirt von Capitain W. Wendt, in den Jahren 1830, 1831 und 1832*, Berlin, In der Sanderschen Buchhandlung, 1834
- RICHARD Jules, *Documents sur les cétacés et pinnipèdes provenant des campagnes du Prince Albert 1er de Monaco*. Résultats des campagnes scientifiques accomplies sur son yacht par Albert 1er Prince souverain de Monaco, 94, 1936.
- ROBINEAU Daniel, *Cétacés de France*, Fédération française des sociétés de sciences naturelles, 2005
- RONDELET Guillaume, *Libri de piscibus marinis*, Lyon, Matthias Bonhomme, 1554; *L'Histoire entière des poissons*, Lyon, Mace Bonhomme, 1558

