Historical and biological study of the marine creatures depicted at El Deir el-Bahari temple

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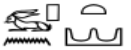
Abstract

The mortuary temple of Queen Hatshepsut in El Deir el-Bahari, west of Luxor; is documenting the commercial expedition to the land of Punt. The carvings on the southern wall of the middle colonnade give detailed information about the expedition itself and the indigenous fauna, including the aquatic life which is depicted in the strips of water beneath the ships. A considerable number of marine species are depicted based on the observation of the expedition participants who sketched these creatures after they had been caught. These details are the earliest portrayals of the Red Sea/Indian Ocean fish; an important and extremely rare documentation in the history of ancient Egypt. This study provides insight into the historical and a biological background of a selected number of these depicted marine species.

Key Words: El Deir el-Bahari – Fish – Hatshepsut – Punt – Ancient Egypt**.**

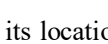
Introduction

Since the Old Kingdom the ancient Egyptian artist recorded his own fishing activities and also documented different species of animals or fish that served as food. They created very realistic images of fish species and fishing methods in reliefs and wall paintings on tombs, like in Saqqara. The depicted fishes are mainly Nile perch, Nile tilapia, elephant fishes, mullets, eels and catfishes. Modern studies revealed about 65 fish species in the Nile waters; 30 of which can be recognized in ancient images.[1] The presentations of fish and fishing continued during the Middle and New Kingdoms, at Thebes, west of Luxor and elsewhere.[2] Queen Hatshepsut, one of Egypt's female rulers, who accomplished a successful commercial expedition to the land of Punt in the ninth year of her rule.[3] Generally Punt is written without the sign indicating a foreign country;  Egyptian spelling "*p.wn.t*"[4] the last letter (t) is the

[1]Helaine Selin, *Encyclopedia of the History of Science, Technology, and Medicine in Non-Western Cultures,* Springer Science & Business Media, 2008, p. 923.

[2]Douglas J. Brewer, Renée F. Friedman, *Fish and Fishing in Ancient Egypt,* AUC Press, 1990, p. 30.

[3]James Henry Breasted, *Ancient Records of Egypt: The eighteenth dynasty*, University of Illinois Press, 2001, p. 122.

[4]  *Bi3-Punt*; its location was a matter of discussion. Prof. Breasted considered the term of Bia-Punt denotes two regions [Sinai and Punt], Prof. Gardiner gave the same opinion also, but with the translation of the word BiA as the Mineral –land. On the other hand, Golenischeff considered the term Bia-Punt as a designation of one region only and he translated it [the Mines of Punt, Sayed Abdel Monem agreed with him proved that the word is used in a context that gives it the significance of one geographical region situated in the south on the Red Sea coast. After: Sayed Abdel Monem, *Discovery of the site of the 12th dynasty port at Wadi Gawasis on the Red Sea shore*, RdE 29, 1977, p 176.

determinative for country, land.[5] At times Punt is referred to as *(t3-nṯr)*[6]  , the "Land of the God"[7] or the divine land"[8] which means that the ancient Egyptians may have viewed the Land of Punt as their ancestral homeland.[9] The exact location of Punt is debated by historians. Various locations have been offered, southeast of Egypt, Somalia, Djibouti, Ethiopia, Eritrea, and north-east Sudan.[10]

Most of the information about this journey is taken from a large narrative relief carved on the south wall of the middle colonnade of her mortuary temple at Deir El-Bahri. The images are giving detailed information about the aquatic life which is carved in the bottom of several registers.[11] (Fig 1) The researcher is left with the inevitable deduction that Hatshepsut's recording is unique in the idea that fishing itself as a daily life activity was not the main objective of recording these scenes nor was it a registration of food stuff, here we see the depiction of the surrounding environment and nature becoming the main reason of the recording, but this conclusion will bring up some questions, like:

1- Was it only the fascination of the sailors of Hatshepsut's expedition when they caught these colorful fish (unlike the common grayish Nile fish) that made them wants to record their details? The ancient Egyptians were great observers of the details of nature surrounding them and were always excited about depicting it in their art either in tombs, temples or even in the traditional art found in the remains of the houses of the ordinary people like in Dair el Madina and elsewhere.

2- Was there a systematic planed environmental study that started during the New Kingdom with the trend of depicting different and new species? Are these men on their way to Punt were simply perpetuating? Maybe the artists clearly took part in both Egyptian trading and military expeditions beyond Egypt's borders to depict many

[5]Ian Shaw, Paul Nicholson, *The Dictionary of Ancient Egypt*, British Museum Press, London, 1995, p. 231.

[6]The term *t3-nṯr* [God`s Land] remained a very uncertainly defined area, but we are told that the myrrh terraces of Punt are a part of God`s Land from reliefs of Deir El-Bahari from the time of queen Hatshepsut, while in the time of king Ramesss III when an inscription from Medinet Habu places the gum (kmyt) of God`s Land at the top of the list of tribute, the gum of Punt coming second on the list. So, it may be that Punt was a part of God`s Land or perhaps be Punt and God`s Land do not belong the same geographical region; After: Alessandra Nibbi, 'Remarks on the Two Stelae from the Wadi Gasus', 1976, p. 51-53.

[7]Ogden Goelet, "*w3ḏ-wr*, Punt, and Wadi Hammamat: The Implication of Verbs of Motion Describing Travel", *Abgadiyat*, issue no 11, 2016, p. 51.

[8]John Henry Breasted, *Ancient Records of Egypt: Historical Documents from the Earliest Times to the Persian Conquest*, vol. 1, Chicago, 1906–1907, p. 433.

[9]Edouard Naville, The Temple of Deir El Bahari, Part 3, 1898, London, p. 12.

[10]Simson R. Najovits, *Egypt, Trunk of the Tree, Vol. I: A Modern Survey of an Ancient Land*, Algora Publishing, 2003, p. 77.

[11]Eugene G. Maurakis, "Comparison of Aquatic Life Depicted in Illustrations and Plaster Casts of the Punt Relief from the Temple of Hatshepsut at Deir El-Bahari", *Virginia Journal of Science*, Vol 56, No 4, 2005, p. 163.

new species (plants, animals, fish, etc), as witnessed in Hatshepsut's Punt scenes and Thutmose III's 'Botanical Garden' in the Akhmenu at Karnak.[12]

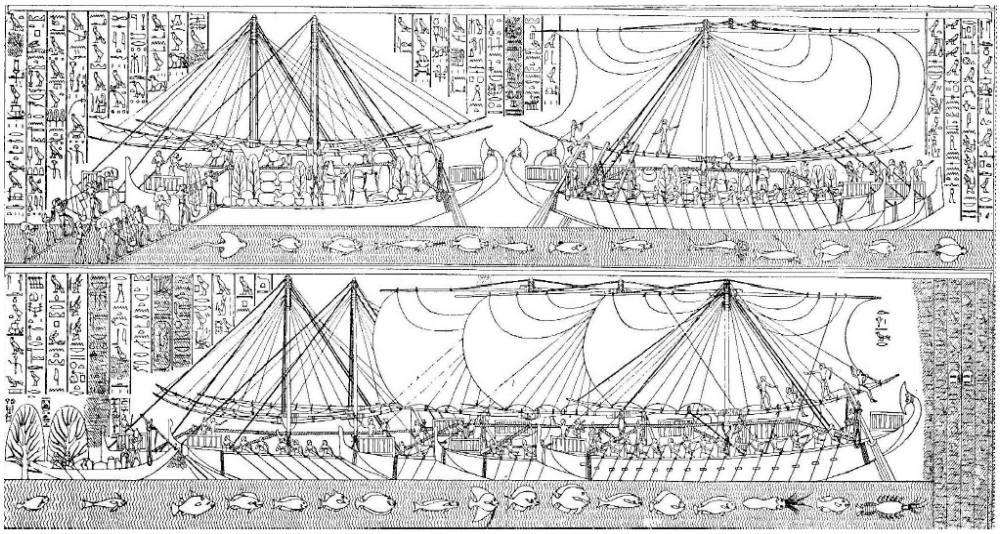


Fig 1: The loading and departure of five Egyptian boats from Punt, the marine creatures are depicted under the boats, Hatsheput's mortuary temple at Deir el Bahri.

After: Gregory P. Gilbert, *Ancient Egyptian Sea Power and the Origin of Maritime Forces*, Sea Power Centre, Australia, 2008, p.35.

Some fresh-water Nile fish were depicted swimming along with the salt-water sea creatures. They have been moved from other aquatic scenes in what we can call 'association of idea'.[13] The ship's hogging truss was used in the construction of Egyptian sea-going ships at least until the New Kingdom sea-going vessels of the Punt.[14] We can notice the lifts of the yards of the ships under sail are swept back in looping concentric arcs, in an impossible manner, rather than overlapping, as they would have done in reality. In making this change, the artists created a tidier, more elegant, and more symmetrical, but decidedly less accurate, depiction.[15]

Another (very respectful) opinion is the land of Punt was located between the Red Sea and the Nile and between the first two cataracts of the river. The heavy rain beyond the first cataract can cause a consequent flooding of the Nile. Logically, we can say that this country was supplied by a powerful river for at least two reasons:

1- Among the fishes drawn, there are freshwater species including tilapia.

[12]Shelley Wachsmann, "On the Interpretation of Watercraft in Ancient Art" In *Institute of Nautical Archaeology*, Switzerland, 2019, p.38.
[13]Heinrich Schäfer, *Principles of Egyptian Art*, Clarendon Press, Oxford, 1974, p.160-162.
[14]Emmanuel Nantet, *Sailing from Polis to Empire: Ships in the Eastern Mediterranean during the Hellenistic Period*, Cambridge, UK, 2020, p.100.
[15]Shelley Wachsmann, "On the Interpretation of Watercraft in Ancient Art" In *Institute of Nautical Archaeology*, Switzerland, 2019, p.14.

2- The huts of the natives are built on pile to protect themselves from flooding as depicted in the scenes.[16] (Fig 2)

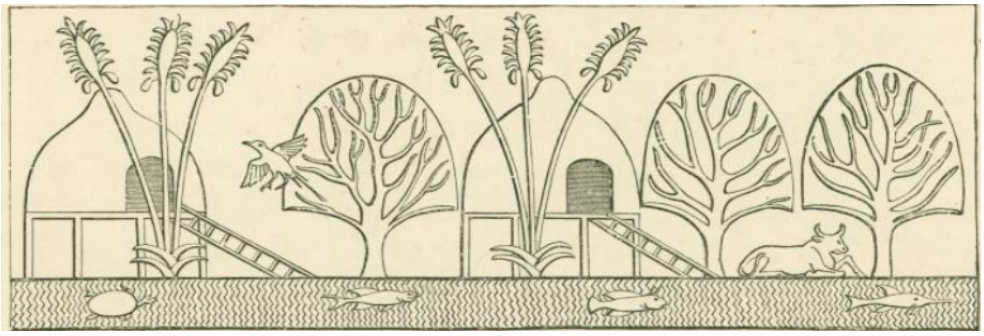


Fig 2: Huts built on piles in Punt, Deir el Bahri temple.

After: https://landofpunt.files.wordpress.com/2016/01/puntvillage.png Accessed on 12-6-2023

Identification of these depicted creatures would not only expand knowledge of the types of aquatic animals that were observed and deemed important by Egyptians, but also would help in narrowing the search for the exact location of the Land of Punt.[17] Many authors were unable to identify many of the fishes and other aquatic life, they admit that the main obstacle to any identification lay in the fact that the representations could be studied neither on the original reliefs nor on any reproductions (casts or photographs) other than the illustrations published by Eduoard Naville (1898).[18]

Focusing on the different types of marine creatures depicted on the temple's wall, we can find 30 different fish and other marine creatures; mammals like dolphin, mollusks like squid, reptiles like turtles, crustaceans like lobster and shrimp, and fish like snappers, rays, surgeonfish, scorpion fish, unicorn fish, puffer fish, sting catfish, flatfish, trigger fish, soldier fish, bat fish and Wrasses. All commonly inhabit the Red Sea coasts also several freshwater fish are identified. (Fig 3) The Red Sea is characterized by a unique composition of species of fishes which currently consists of 1166 species from 159 families whose habitats range from shallow waters to the deep sea. There is a total of 1120 species, among them, 165 species are exclusively endemics to the Red Sea.[19] As saltwater fish were rarely pictured,[20] so we must admit

[16]https://nantt44.wordpress.com/tag/mer-rouge/ Accessed on 2-10-2021.
[17]Eugene G. Maurakis, *Comparison of Aquatic Life Depicted in Illustrations and Plaster Casts of the Punt Relief from the Temple of Hatshepsut at Deir El-Bahari,* Article at Virginia Journal of Science Vol: 56, no: 4, 2005, p. 164.
[18]Edouard Naville: A Swiss Egyptologist working on behalf of the Egypt Exploration Fund, in 1892, he charged two artists, Howard Carter and Percy Brown, to draw black and white illustrations of each section of the relief, which were published as plates in his book, *The Temple of Deir El-Bahari* in 1898.
[19]Sergey V. Bogorodsky, John E. Randall, *Endemic Fishes of the Red Sea*, Springer International Publishing, 2019, p.239-265.
[20]Dietrich Sahrhage, *Fishing and fish cult in ancient Egypt,* Von Zabern, Mainz 1998, p. 77-82.

that this scene is considered an extremely rare and unique documentation of these amazing creatures.

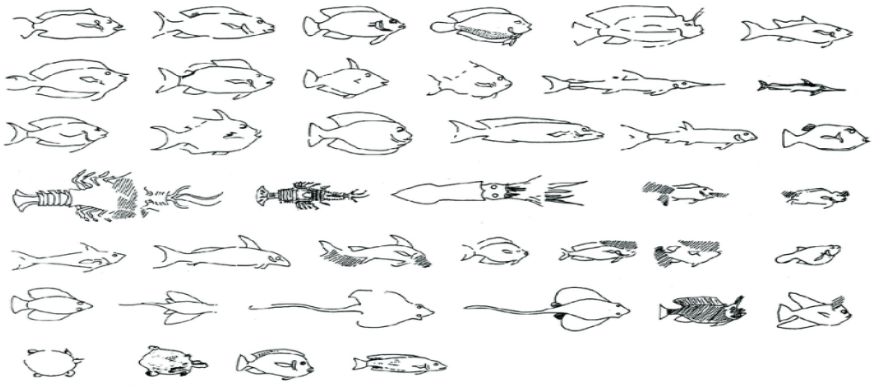
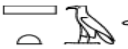


Fig 3: A detailed picture of some of the fish depicted on the walls of Deir El-Bahary temple of the Queen Hatshepsut.

After: https://www.researchgate.net/figure/Fish-and-other-marine-fauna-appearing-in-the-strips-of-water-beneath-Hatshepsuts-Punt_fig3_338052007 Accessed on 26-10-2021.

1- Reptile: Turtles:

The name of the turtle (also tortoise) in hieroglyphic was  [21] (*štw - štjw*)[22] meaning "be a secret" or "being hidden" [23] Turtles were common in the Ancient Egyptian art since the Pre-dynastic period. Bracelets and rings from turtle carapace scales are known since the Badarian period, also big quantities of turtle bones were found at Heirakonpolis in Upper Egypt. Sacrifices of turtles may have occurred within the ancient Egyptian pre-dynastic ceremonial system.[24] Also some zoo-archaeological evidences prove that turtle's meat was one of the nutritive elements of the Egyptian diet from the pre-dynastic period up till the Old Kingdom.[25] The Nile soft turtle was numerous in the Nile and reached a considerable size; the back armor may have been used as shields in prehistoric times.[26] Many pre-dynastic greywacke stone palettes dating back to Naqada I and II periods represent flat turtles, as does the hieroglyph for

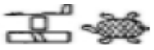
[21]Adolf Erman, Herman Grapow, *Wörterbuch der Aegyptischen Sprache*, vol.IV, Berlin, 1971, p. 556.
[22] Sir Alan Henderson Gardiner, *Egyptian Grammar*, Oxford University Press, 1957, p. 595
[23]Marwa Abd el-Maguid,"The Religious Concept of the Dual Character of the Turtle in Graeco-roman Egypt", *The scientific magazine of Faculty of Tourism and Hotels,* vol 8, Alexandria University, p: 55:70.
[24]Heiko Riemer, Nadja Pöllath, Michael Herb, Frank Förster, *Desert animals in the eastern Sahara: status, economic significance, and cultural reflection in antiquity*, Heinrich-Barth-Institut, 2009, p. 56.
[25] Patrick F. Houlihan, *The Animal World of the Pharaohs*, Thames and Hudson, 1996, p. 122.
[26]Joachim Boessneck, *The animal world of ancient Egypt, Investigated on the basis of cultural-historical and zoological sources,* Munich 1988, p. 25.

"turtle", in which the animal is always represented from above. Stone vessels and figurines in the form of a turtle were also found.[27]

The turtle was regarded as a symbol of evil since the Old Kingdom. It was regarded as the enemy of Re, due to its nature living under the dark waters of the Nile. This negative position was announced in the Coffin Texts (spell 368): *'If you tell me to eat this (excrement), then Re will eat turtle'*.[28] Being an embodiment of danger symbolizing darkness and death, the turtle-amulets were used for protection from evil, and its wearer wished to avoid death and danger[29]. The oldest of these date from the Neolithic Period up to the late and Greco-roman times. Turtle-amulets were made of various materials including green or blue glazed composition, amethyst, ivory, molded hollow sheet-gold and in particular cornelian, olivine and green jasper. These turtle formed amulets had protective magical significance to preserve health and life.[30] Moreover, turtles were represented on magical knives and rods from the Middle Kingdom, as it was invoked as a helper against dangers and evil spirits,[31] especially for the women and children of the house.[32]

In the New Kingdom, the turtle was identified with the serpent Apophis as an enemy of Re. According to this myth, the turtle could block the way of Re's bark in the underworld. A 19th Dynasty harpooning scene of a Nile-turtle from the tomb of Nebwenenef (no.157, Thebes), killing the turtle symbolized the victory over evil power,[33] accompanied by the traditional spell from the Book of the Dead, chapter 161: "May Re live and turtle die".[34] Later, the turtle was represented on the walls of the Graeco-roman temples like Philae, Edfu or in Dendera[35] harpooned by the king as a religious ritual known as "slaughtering the turtle". The best example of the killing of turtle ritual is figured on the walls of Edfu temple as an episode of the series of Horus defeating the dangerous creatures symbolizing the myth of Horus defeating Seth.[36]

[27]Diane Victoria Flores, *Funerary Sacrifice of Animals in the Egyptian Predynastic Period*, Archaeo press, 2003, p. 50.
[28]Dimitri Meeks, Christine Favard-Meeks, *Daily Life of the Egyptian Gods*, Cornell University Press, 16, p. 65.
[29]Dorthea Arnold, "An Egyptian Bestiary", *Bulletin of the Metropolitan Museum of Art,* Vol 52, 1995, p.34.
[30]https://www.ucl.ac.uk/museums-static/digitalegypt/religion/turtles.html Accessed on 2-11-2021.
[31]Steindorff George, "The Magical Knives of Ancient Egypt" *The Journal of Walters Art Gallery,* No *9*, 1946, p.49.
[32]Henry George Fischer, Egyptian Turtles, *"The Metropolitan Museum of Art Bulletin*", Vol. 24, 1966, p. 193-200.
[33]Marwa Abd el-Maguid el-Kady, "The Religious Concept of the Dual Character of the Turtle in Graeco-roman Egypt" *The scientific magazine*, Vol 8, Alexandria University, p. 55-70.
[34]Raymond Faulkner, *The Egyptian Book of the Dead: The Book of Going Forth by Day*, San Francisco, 1994, p. 125.
[35]Dietrich Sahrhage, *Fishing and fish cult in ancient Egypt*, von Zabern, Mainz 1998, p. 76.
[36]Richard Jasnow, Karl-Theodor Zauzich, *The Ancient Egyptian Book of Thoth: A Demotic Discourse on Knowledge and Pendant to the Classical Hermetica*, vol 1, Otto Harrassowitz Verlag, 2005, p.73.

On the other hand, Budge suggests the existence of a turtle god in funeral texts named  (apS), Apesh or (StA) Sheta.[37] This demon was described in the Middle Kingdom coffin texts as "turtle-faced" and in the New Kingdom as "eater of filth".[38] This opinion is strongly supported by the discovery of wooden statuettes representing a turtle- headed man from the New Kingdom, founded in the Valley of the Kings, in tomb KV 57 of Horemheb, now displayed in the British Museum. Most probably it was used to protect the king in his journey in the other world.[39] Apart from this, no king, god or further personal names are known which include the turtle/tortoise determinative or name.[40]

There are two turtles depicted at the beginning and at the end of the line of the fauna of the Red Sea coast of Punt that might be applied for protection reasons. (Fig 4) Turtle carapaces and skin from Red Sea turtles (Hawksbill) (*Eretmochelys imbricata*) were used in rings, bracelets, dishes, bowls, knife hilts, protecting amulets, and combs. Carapaces from the land tortoise were used as sounding boards for lutes. According to Fischer, he showed an interesting explanation of the two turtles depicted on the temple are clearly show the long snout of the fresh-water Trionyx (the Nile soft-shell turtle)[41] characterized by its ability to endure long periods without breathing (one-two hours) underwater,[42] its length can reach one meter and its color varies between dark brown to olive.[43] (Fig 5)

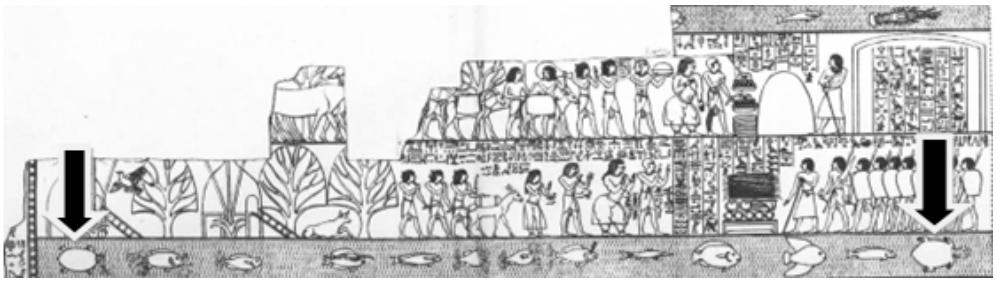


Fig 4: The arrows pointing to the turtles at the beginning and at the end of the line of the Red Sea fauna of Punt, the southern wall at the mortuary temple at Deit el-Bahari.

After: Catherine Lucy Glenister, *Profling Punt: using relation to locate 'God's land'*, of Master degree, University of Stellenbosch, 2008, p. 46.

[37]Ernest Alfred Wallis Budge, *Egyptian Hieroglyphic Dictionary*, Part I, Montana, 2003, p. 119.
[38]Adolphe Gutbub, *La tortue animal cosmique bénéfique*, France, 1979, p.408.
[39]Edna R. Russmann, *Eternal Egypt: Masterworks of Ancient Art from the British Museum*, University of California Press, 2001, p.160.
[40]https://xoomer.virgilio.it/francescoraf/hesyra/egypt/turtles.htm Accessed on 5-12-2021.
[41]Henry George Fischer, *Ancient Egyptian Representations of Turtles*, Metropolitan Museum of Art, 1968, p.9.
[42]Roy P Mackal, *Living Dinosaurs?: In Search of Mokele-Mbembe*, Brill, 1987, p. 270.
[43]Carl H Ernst; Roger W Barbour, *Turtles of the World*, Washington, 1989, p. 100.

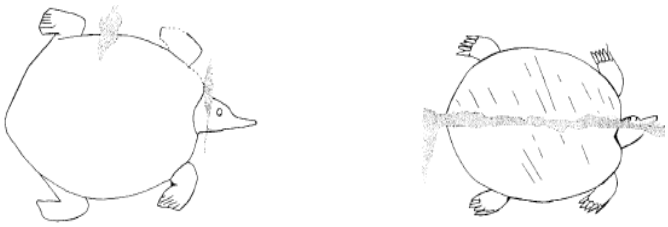


Fig 5: The two turtles represented among the fauna of the Red Sea coast of Punt, Hatshepsut temple, 18th dynasty.

After: Henry George Fischer, *Ancient Egyptian Representations of Turtles*, Metropolitan Museum of Art, 1968, p.10.

Four species of turtles can be found in the Egyptian Red Sea: the green (Chelonia mydas) and the hawksbill (Eretmochelys imbricata) turtles that nest and feed on the coast, the leatherback turtle (Dermochelys coriacea) that called the gentle giant and finally the olive-ridley turtle (Lepidochelys olivacea), the smallest of the turtle species. At present, the International Union for nature conservation lists leatherback and hawksbill turtles as critically endangered, green and loggerhead turtles as endangered and vulnerable are the olive-ridley turtles.[44]

The depicted turtles are truly showing a long snout which characterizes the fresh-water Trionyx (the Nile soft-shell turtle).[45] The Red Sea turtle species do not look even close to the depicted ones on the temple's walls. (Fig 6) This issue may bring a question, why the ancient Egyptian artist represented a fresh-water turtle instead of the Red Sea turtle? Knowing how detailed and precise was the Ancient Egyptian documentation! Maybe the artist was told about all the details or even saw it by himself, but still his eyes used to seeing the fresh water turtle much more than the Red Sea turtle was spontaneously reflected this in his art.

Fig 6: (Right) The current state of one of the turtles depicted on the temple of Hashipsut.

(Left) The most common type of turtles in the Red Sea is the Green turtle *(Chelonian mydas)*. After: The researcher, December 2022.

[44] https://www.hepca.org/projects/project/115 Accessed on 9-12-2021.
[45] Henry George Fischer, *Ancient Egyptian Representations of Turtles*, Metropolitan Museum of Art, 1968, p.9.

The salt-water Green turtle *(Chelonian mydas)* and the Hawksbill turtles *(Eretmochelys imbricata)* were utilized in manufacturing ornaments like combs and bracelets from the pre-dynastic period to the New Kingdom and knife hilts from the end of the Middle Kingdom,[46] when certain parts of the turtle were used as remedies for certain diseases,[47] while the New Kingdom Ebers Medical Papyrus mentions the employment of turtle's organs and carapace in certain formulae for hair removal, and the usage of the turtle's organs to cure eye's illnesses like infection and squinting.[48] Interestingly some of these ideas are still adopted in some of the Egyptian coastal cities like Alexandria and Port Said until today, the loggerhead turtle (Caretta caretta), known for its big head is the most common turtle in Egyptian Mediterranean waters. Many ladies still use the turtle's and bat's blood in the hair removal routine and also in other magical purposes. The turtles are kept alive in the market until required; when the throat is cut the turtle's blood is drunk in hopes of restoring lost youth, gaining weight and fertility,[49] neglecting the clear Islamic role of forbidding drinking blood.[50]

2- Mollusks: Squid

Mollusks are the largest marine phylum, comprising about 23% of all the named marine organisms. The phylum is typically divided into 8 taxonomic classes, of which two are entirely extinct. The gastropods (snails and slugs) are by far the most numerous mollusks and account for 80% of the total classified species.[51] The mollusks include the largest species of both modern and fossil invertebrates inhabiting different kinds of grounds in both salt and fresh waters.[52] The remnants of shellfish date back to the Stone Age sites like Maadi or Merimde Beni salame, it served as a meat supply, offerings and the shell was used as make-up containers, bowls, spoons, and were particularly popular as jewelry. [53] Mollusks from the Mediterranean were mainly collected on beaches and cliffs. It is unclear to what extent these mollusks served as a source of food or were only collected for decorative purposes. In addition, such objects were mainly found as pieces of jewelry and grave goods and as offerings.[54]

Mussels and snails came mainly from the coasts of the Red Sea, species like cowries, cone snail and clams were consumed in large quantities, and remains of giant clams

[46]Patrick F. Houlihan, T*he Animal World of the Pharaohs*, American University in Cairo Press, Cairo, 1996, p.125.
[47]Henry G. Fischer, *Egyptian Turtles*, Metropolitan Museum of Art, 1966, p. 194.
[48]John F. Nunn, *Ancient Egyptian Medicine*, University of Oklahoma Press, 2002, p. 202.
[49]Brian Groombridge, *Marine Turtles in the Mediterranean: Distribution, Population Status, Conservation,* Council of Europe, 1990, p. 23.
[50]Marwan Ibrahim Al-Kaysi, *Morals and Manners in Islam: A Guide to Islamic Adab,* Kube Publishing Ltd, 2015, p. 32.
[51]Winston E. Ponder, Winston Ponder, David R. Lindberg, *Phylogeny and Evolution of the Mollusk,* University of California Press, 2008, p. 203.
[52]Rafik Riad, "Monograph of the Egyptian Squids Order: Teuthoidea (Cephalopoda: Mollusca) Part II", *Egyptian Journal of Aquatic Biology & Fisheries*, Vol. 24, Ain Shams University, 2020, p. 197-198.
[53]Joachim Boessneck, *The animal world of ancient Egypt. Investigated on the basis of cultural-historical and zoological sources*, Munich, 1988, p. 145-147.
[54] https://second.wiki/wiki/fisch_im_alten_c384gypten Accessed on 23-12-2021.

have been found in Maadi and Karnak. The Cephalopod mollusks, such as squid, cuttlefish, and octopuses, are among the most neurologically advanced of all invertebrates and either the giant squid or the colossal squid is the largest known invertebrate species,[55] during excavations in several places, their inner shell was commonly found.[56]

A squid was depicted among the fauna of the Red Sea coast at Hatshipsut temple. Most probably of the family Loliginidae, commonly known as pencil or inshore squids; they include nearly 12 species widely distributed; found in very shallow warm waters, over grass flats and coral reefs. In particular; the Indian squid, (*Uroteuthis duvaucelii*) is one of the 12 species of the family Loliginidae is an Indo-West Pacific species with a wide range that extends from the Red Sea in the Western Indian Ocean to the South China Sea. This species is a well-known exploited marine resource in the Suez Gulf, contributing by about 195 tons.[57] It serves as a popular source of food today and maybe throughout the history.[58] (Fig 7)

Fig 7: Upper: the Indian squid, (*Uroteuthis duvaucelii*), the most common species of squid in the Red sea.

After: https://www.dreamstime.com/stock-image-squid-image13613001 Accessed on 31-12-2021. Lower: The depicted squid at the temple of Hashepsut. After: The researcher, December 2022.

[55]Dennis Holley, *General Biology II: Organisms and Ecology, Volume 2*, Dog Ear Publishing, 2017, p. 467.
[56]Dietrich Sahrhage, *Fishing and fish cult in ancient Egypt.* von Zabern, Mainz 1998, p. 84-86.
[57]"Annual fishery statistics report", *GAFRD*, Cairo, 2019, p. 104.
[58]Wessam E. R. Elsayed , Asaar S. H. El-Sherbeny , Mohamed A. Abu El-Regal , Mohamed S. A. El-Sabbagh, Reproductive Dynamics of Indian Squid, Uroteuthis duvaucelii "(Cephalopoda: Loliginidae) of the Suez Gulf, Red Sea, Egypt", *Egyptian Journal of Aquatic Biology & Fisheries*, Vol. 24, Ain Shams University,2021, p. 574.

3- Crustaceans: lobster

Crustaceans are large diverse of (*arthropod taxon*) which includes such animals as crabs, lobsters and all types of shrimps. The earliest depiction of lobster is apparently that on a 15th century BC bas-relief in Deir el-Bahari, commemorating the voyage of Queen Hatshepsut to the land of Punt in the southern Red Sea.[59] While the Mediterranean lobsters were known by the ancient Greeks and Romans as was expressed in art forms and writings. Lobsters and shrimps also appeared in ancient mosaics,[60] unusual lobster's images appeared on a Greek silver ring from Sicily, since the 6th century BC,[61] also lobster motifs appeared on ceramic vessels and early coins of the Mediterranean regions.[62] Deir el-Bahari lobster depiction is a spiny lobster also known as langouste or rock lobsters that some scholars suggested to be *(Panulirus penicillatus*).[63]

As lobsters are collected by hand; so maybe the sailors of the expedition caught some of them at the harbors, either in Egypt before starting the expedition or after the arrival to the land of Punt. They might have use a tool like spear to catch the lobster and it is very probable they adopted some breath-hold diving techniques in order to reach the rocky corners where the lobsters usually live. It is the most common spiny lobster in the Red Sea and is widely distributed in the Indian and Pacific Oceans,[64] lives on shallow rocky and coral reefs.[65] I also support the idea that this is a spiny lobster. The prove to this is that this type of lobster is different from the other types with two things; the first is the existence large spiny antennae, the second is the lack of pincers on their front legs, both features are clearly depicted in the lobster carving in Hatshepsut's temple. (Fig 8)

[59]Waldo L. Schmitt, *Crustaceans: shelled invertebrates of the past and present. Part II. Smithsonian Scientific Series* No 10, 1931, p. 85-248.
[60]J.C. von Vaupel Klein, *Treatise on Zoology - Anatomy, Taxonomy, Biology, The Crustacean,* Vol 4, BRILL, 2014, p. 156.
[61]Jeffrey Spier, *Ancient gems and finger rings: catalogue of the collections*, Nissha Printing Co, 1992, p. 27.
[62]Richard J. King, *Lobster*, Reaktion Books, 2012, p. 58.
[63]Ehud Spanier, "The Utilization of Lobsters by Humans in the Mediterranean Basin from the Prehistoric Era to the Modern Era", *Athens Journal of Mediterranean Studies*, Vol 1, Issue 3, 2014, p. 226.
[64]Plaut , L & L. Fishelson, 'Population structure and growth in captivity of the spiny lobster Panulirus penicillatus from Dahab, Gulf of Aqaba', *Red Sea, Marine Biology magazine*, Vol 111, issue 3, 1991, p. 467.
[65]Peter Vine, *Red Sea Invertebrates*, Immel, 1986, p. 107.

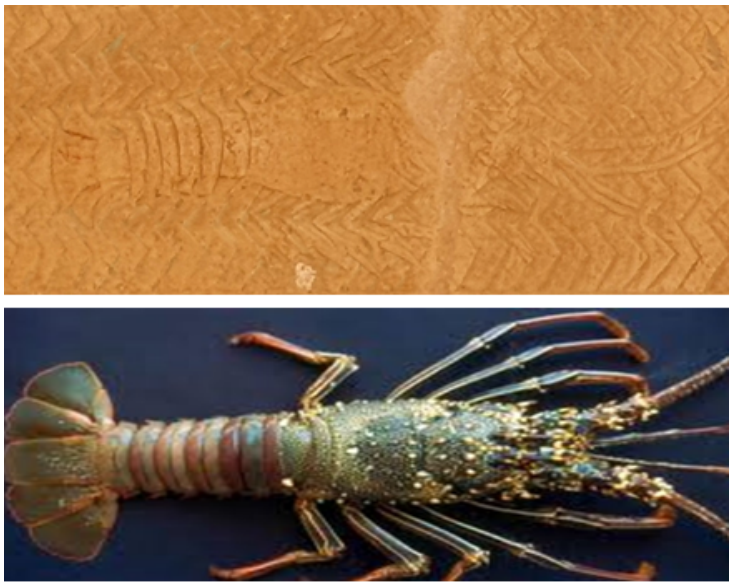


Fig 8: Upper: The depicted lobster at the right end, icon 17 in the lower register of Punt relief on southern wall of the middle colonnade from mortuary temple of Deir El-Bahari.

After: The researcher, December 2022.

Lower: The Red Sea rock lobsters.

After: https://www.fishton.id/catalog/stone-lobster/ Accessed on 2-1-2022.

4- Family Acanthuridae: Unicorn-fish (*Naso brevirostris*)

The depicted species in icon 5 from the upper register of Punt relief on the southern wall of the middle colonnade of Deir El-Bahari temple is clearly presenting the genus of Naso fish; a certain exclusively marine fishes also belonging to the family Acanthuridae. This fish abundant in the tropical Indo-Pacific region, herbivorous, lives around coral reefs and eats algae.[66] Some species are commonly known as Unicorn-fish because of the "rostral protuberance" present in some species.[67] The research shows that it is the closest species to the depicted one on the temple's wall, the only exception is that the dorsal and anal fins are a bit more exaggerated by the artist, while in nature, fish in general extended their fins when they are in a defense or attacking positions, otherwise all other elements perfectly match with the Unicorn-fish genus Naso. (Fig 9)

[66] https://academic.eb.com/levels/collegiate/article/unicorn-fish/74250 Accessed on 16-1-2022.
[67] C.L. Dayton, Genetic evolution among selected members of the genus Naso (Nasinae), "unicornfishes" from Guam, " *Marine Biology*" Vol 139, issue 5, 2001, p. 771-776.

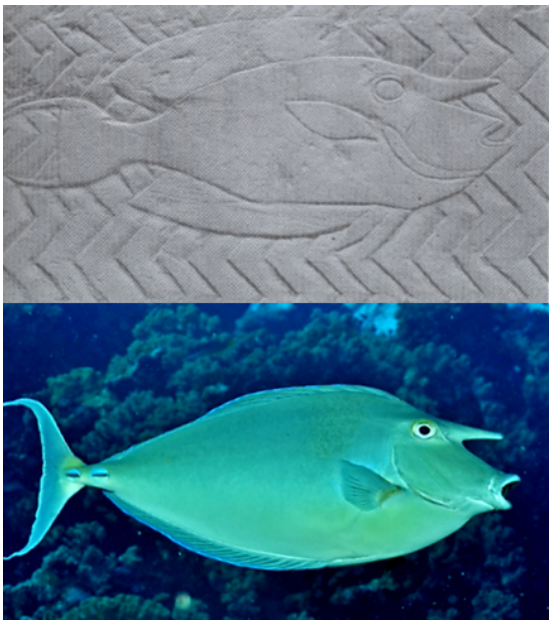


Fig 9: Upper: Icon 5 in the upper register of Punt relief on southern wall of the middle colonnade of Deir EI-Bahari temple.

After: Eugene G. Maurakis, "Comparison of Aquatic Life Depicted in Illustrations and Plaster Casts of the Punt Relief from the Temple of Hatshepsut at Deir El-Bahari", *Virginia Journal of Science*, Vol 56, No 4, 2005, p. 195.

Lower: Unicorn-fish (*Naso brevirostris*)

After: https://fishesofaustralia.net.au/home/species/2201 Accessed on 16-1-2022

5- Family Balistidae: Picasso Triggerfish (*Rhinecanthus assasi)*

A very especial fish is depicted in icon 3, in the lower register of Punt relief on southern wall of the middle colonnade at Deir EI-Bahari temple is a flat fish with a large head and hornlike extension of the forehead, extremely similar to the Triggerfish, especially the Species (*Rhinecanthus assasi) a*lso known as Red Sea Picasso Triggerfish, Arabian Triggerfish and Assasi Trigger. It belongs to the order of Tetraodontiformes and to the family of Balistidae. The name of the genus *Rhinecanthus* comes from the Greek (rhinos) which means nose, and from (akantha) means spine, with reference to its snout, quite elongated for a triggerfish, and to the characteristic dorsal spine, also typical of the trigger-fishes.[68] The (*Rhinecanthus assasi)* is strictly localized in the western Indian Ocean, is present only in the Red Sea, Gulf of Oman and the Somalian coast, inhabits shallow areas of coral reefs and feeds on benthic invertebrates.[69] It can reach 30 cm in Length, the body is flat and colorful, the head is massive and occupies about one third of the whole length, with the eyes

[68]Laith A. Jawad, *Dangerous Fishes of the Eastern and Southern Arabian Peninsula*, Springer, 2017, p. 103.

[69]https://fishbase.mnhn.fr/Summary/SpeciesSummary.php?ID=25420&AT=Arabisk+picassofisk Accessed on -1-2022.

placed at the top and the lips are fleshy. The back has the characteristic erectile trigger that may block vertically in the state of defense. The body is protected, like all trigger-fishes, by solid armor of mushy bony scales.[70] All those facts led the researcher to easily identify the species of the Picasso Triggerfish with the depicted fish at the temple. (Fig 10)

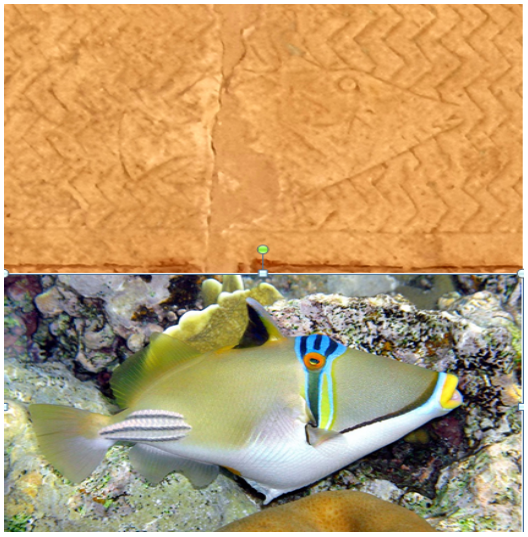


Fig 10: Upper: Icon 3 in the lower register of Punt relief on southern wall of the middle colonnade of Deir EI-Bahari temple.

After: The researcher, December 2022.

Lower: Red Sea Picasso Triggerfish

After: https://www.monaconatureencyclopedia.com/rhinecanthus-assasi/?lang=en Accessed

6- Family Soleidae: Flatfishes (*Sole fish*).

The family Soleidae, of flatfishes; contains 30 genera and about 180 species which are generally called soles. The word sole in English, French, and Italian comes from its resemblance to a "sandal, bottom of a shoe", Latin solea.[71] It includes both saltwater species in the East Atlantic, Indian and Pacific Ocean, and freshwater species in Africa, Asia and Australia. The soles have small eyes, close to each other on the top of the flat body. This gives the fish the possibility of staying half-buried in the sand making them hard to spot for passing prey. They are bottom-dwelling fishes feeding on small crustaceans and invertebrates.[72]

[70] https://www.monaconatureencyclopedia.com/rhinecanthus-assasi/?lang=en Accessed on 16-1-2022.
[71] https://www.etymonline.com/word/sole Accessed on -1-2022.
[72] https://dbpedia.org/page/Soleidae Accessed on 19-1-2022.

Egypt is blessed with this fish, which lives in the Mediterranean and the Red Sea, and it even lives in Qarun Lake.[73] The most common type is The Egyptian sole (*Solea aegyptiaca*), a species of flatfish in the true sole family, Soleidae. It grows to a maximum length of about 65 cm,[74] living mainly on the sandy or muddy seabed of the Mediterranean Sea. It has been recorded in the Suez Canal In 1869 and, more recently in 1987 in the Gulf of Suez, in the Red Sea.[75] The common type of the Red Sea sole fish is the (*Pardachirus marmoratus*), also known as the Red Sea Moses sole. According to the legend, when the prophet Moses parted the waters of the Red Sea to the Israelites to flee from the Egyptians, a small fish was caught in the middle and split in two; the halves became flatfish-and are known to this day as Moses soles.[76] It is depicted in icon 11 in the upper register of Punt relief on southern wall of the middle colonnade at Deir EI-Bahari. (Fig 11)

Figure 11: Upper: Icon 11 in the upper register of Punt relief on southern wall of the middle colonnade at Deir El-Bahari temple.

After: The researcher.

Lower: *Pleuronectes platessa*

After: http://allthesea.com/Deep-Sea-Fish-C-O-Sole.html Accessed on 19-1-2022.

7- Family Labridae: Napoleon fish (*Cheilinus undulatus*)

[73]Sabry Sadek Elserafy, Alaa El-Din, Alaa Eldin Ahmed Elhaweet, Azza El-Ganainy, 'Qarun Lake Fisheries : Fishing Gears, Species Composition and Catch per Unit Effort', *The Egyptian Journal of Aquatic Biology and Fisheries*, Vol. 18, No. 2, 2014, p. 41-42.
[74]https://www.fishbase.de/summary/11707 Accessed on 19-1-2022.
[75]Mohamed Hichem Kara, Jean-Pierre Quignard, *Fishes in Lagoons and Estuaries in the Mediterranean 3B: Migratory Fish,* John Wiley & Sons, 2019, p. 81.
[76]Joseph Gaer, *The Lore of the Old Testament*, Little, Brown, 1951, p. 156.

The wrasse, the Labridae family of marine fish is a large family with over 600 species in 81 genera.[77] The hump-head wrasse (*Cheilinus undulatus*), more known as the Napoleon fish gets its name from the hump like protrusion on its forehead looks like the tricorn hat worn by Napoleon Bonaparte. The scientific name comes from two main words, '*cheilos'* meaning lip and '*undulatus'* meaning wavy or undulating. It is clear to see why both of these names were chosen; the fish is covered in wavy lines and has huge lips. It is a large species of wrasse family, mainly found on coral reefs in the Indo-Pacific region; very common in the Red Sea, often found close to shallow reef areas usually observed living singly or in pairs; feed extensively on living coral (polyps), mollusks crustaceans and fish.[78] The Napoleon fish could reach up to 2 meters and weigh up to 180 kg. It can easily be identified by its large size, thick lips and the hump on the foreheads of larger adults. Its color can vary between shades of green and blue.[79] Icon 16 in the lower register of Punt relief on southern wall of the middle colonnade at Deir EI –Bahari representing the Napoleon fish; we can notice the obvious similarity, an identical set of fins, the hump, the tail, the fat lips and the location of the eye. Probably they used very hard hooks and strong rod in order to catch such heavy types of fish. (Fig 12)

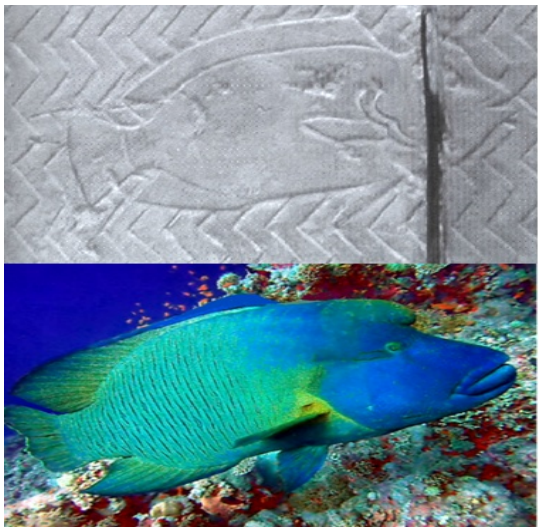


Fig 12: Upper: Icon 14 in the lower register of Punt relief on southern wall of the middle colonnade at Deir El-Bahari temple.

After: Eugene G. Maurakis, "Comparison of Aquatic Life Depicted in Illustrations and Plaster Casts of the Punt Relief from the Temple of Hatshepsut at Deir El-Bahari", *Virginia Journal of Science*, Vol 56, No 4, 2005, p. 191.

[77]Paolo Parenti, John E. Randall, "Checklist of the species of the families Labridae and Scaridae" *Smithiana Bulletin,* No. 13, 2011, p. 29-44.

[78]https://blog.scubatravel.com/findex-with-jim/humphead-wrasse-cheilinus-undulatus/ Accessed on 19-1-2022.

[79]Yvonne Sadovy, Michel Kulbicki, Pierre Labrosse, Y. Letourneur, 'The Humphead Wrasse, Cheilinus undulatus: synopsis of a threatened and poorly known giant coral reef fish'*, Fish Biology and Fisheries*, Vol: 13, no: 2, 2003, p. 327-364.

Lower: The Red Sea Napoleon fish *(Cheilinus undulatus)*

After: https://www.istockphoto.com/photo/red-sea-napoleon-fish-close-up-portrait-gm486907340-73803631 Accessed on 20-1-2022

8- Family Clupeidae: The Spotted Sardine *(Amblygaster sirm*).

"Sardine" is the common name used for various small, oily fish in the herring family *Clupeidae*. The term "sardine" was first used in English during the early 15th century, derived from the Greek and Latin name of the Italian island Sardinia, where once these fish swam in large numbers.[80] The earliest known written reference of sardine is probably in Aristotle's History of Animals from around 350 BC. This fish was plentiful in the Mediterranean waters, and in classical Roman times was salted and transported in jars.[81] This leads us to think that the northern borders of Egypt facing the Mediterranean; definitely had sardine in abundance which was commonly consumed since ancient times as it is today.[82]

Sardines are divided into many species, among which is the species of the Spotted Pilchard or Spotted Sardine (*Amblygaster sirm*), a sardine which can reach 25 cm. This tropical species inhabits coastal waters in the Indian and the Pacific Oceans including also the Mediterranean and Red Sea.[83] It has a slender silverfish body with dorsal soft rays, a forked tail fin and a series of gold or black spots down the flank, though, sometimes missing. The spotted sardine is a schooling species found in coastal waters and lagoons, feeds mainly on minute organisms and phytoplankton.[84] The researcher identified icon 2 in the lower register of Punt relief on southern wall of the middle colonnade at Deir EI-Bahari with the Spotted Sardine *(Amblygaster sirm*) species. (Fig 13)

[80]James Augustus, Henry Murray, Henry Bradley, William Alexander, Craigie, Charles Talbut Onions, *A New English Dictionary on Historical Principles: Founded Mainly on the Materials Collected by the Philological Society*, Vol 8, Clarendon Press, 1914, p. 110.
[81]Trevor Day, *Sardine*, Reaktion Books, 2018, p. 10.
[82]Mohamed Samy-Kamal, 'Status of fisheries in Egypt: reflections on past trends and management challenges', *Reviews in Fish Biology and Fisheries*, Vol 25, issue 4, p. 631-649.
[83]François Conand, 'Biology and Phenology of Amblygaster sirm (Clupeidae) in New Caledonia, a Sardine of the Coral Environment', *Bulletin of Marine Science*, Vol 48, 1991, p. 137-149.
[84]https://fishbase.mnhn.fr/summary/1501 Accessed on 28-1-2022.

Fig 13: Upper: Icon 2 in the lower register of Punt relief on southern wall of the middle colonnade at Deir EI-Bahari temple.

After: Eugene G. Maurakis, 'Comparison of Aquatic Life Depicted in Illustrations and Plaster Casts of the Punt Relief from the Temple of Hatshepsut at Deir El-Bahari', *Virginia Journal of Science*, Vol 56, No 4, 2005, p. 179.

Lower: The Spotted Sardine *(Amblygaster sirm*)

After: https://fishbase.mnhn.fr/summary/1501 Accessed on 28-1-202

9- Family Cichlidae: The Nile tilapia (*Oreochromis niloticus*) (Freshwater fish)

The Nile tilapia (*Oreochromis niloticus*) is a species of tilapia native to the northern half of Africa and the Levante area. It is also known as nilotica, or boulti. Numerous introduced populations exist outside its natural range.[85] The Nile tilapia are brownish or grayish overall, when breeding, male's fins become reddish, reaches up to 60 cm in length and can exceed 5 kg . Nile tilapia can live for more than 10 years, travel almost exclusively in schools, and mostly feed on phytoplankton and algae.[86] The Greeks are known to be tilapia fans and Aristotle is believed to have named it *Tilapia niloticus* (fish of the Nile) in 300 BC.[87] The Nile tilapia was commonly consumed in Ancient Egypt, one of the oldest examples of tilapia farming is a bas-relief found in a 4,000 year old Egyptian tomb depicting tilapias held in ponds. The Nile tilapia was called  (in.t). When used as part of a phonogram  , the hieroglyph

[85]El-Zanfaly HT, Ibrahim AA, 'Boulti (Tilapia nilotica Linn.) fish paste, Preparation and chemical composition', *Zeitschrift für Ernährungswissenschaft*, Vol: 19, no: 31980, p. 159–162

[86]Carl D Webster, Chhorn Lim, *Tilapia: Biology, Culture, and Nutrition*, CRC Press, 2006, p. 35.

[87]http://www.aquaticcommunity.com/tilapia/history.php#:~:text=One%20of%20the%20oldest%20examples,was%20given%20its%20own%20hieroglyph. Accessed on 21-1-2022.

represented the sound *(ỉn)*. [88] Tilapia was a symbol of rebirth in Egyptian art, and was in addition associated with Hathor. Due to the tilapia's red color, it has been associated with the Sun god. [89] As for mouth-breeding tilapia, they were associated with the creator god Atum, who took his seed into his mouth and then spat it out creating the world.[90]

The species Tilapia enjoyed a great favor in art since the prehistoric times; many Tilapia formed palettes served to crush make-up. As it was the most edible fish that figured prominently in the diet, subsequently, it was used as amulets as a symbol of fertility, birth and rebirth.[91] Tilapia was mentioned in the spell 15 of the Book of the Dead by which the deceased hopes to take his place on the sun boat.[92] At Deir El-Bahari temple, middle colonnade, icon 11 of the lower register of Punt relief on southern wall is showing the fresh water fish tilapia. This fish exist in a wide variety of freshwater habitats, and does not live in pure salt water, but is able to survive in brackish water where the river meets the seawater.[93] This may lead us to believe that the land of Punt must be located in an area supplied by a powerful river.[94] The researcher believes that the depicted icon at the temple is almost identical with the tilapia fish, there is also the possibility that the artist made some sort of a spontaneous improvisation and recorded some types of fish that he was used to seeing much more frequently than the Red Sea fishes. (Fig 14)

[88]Alan Henderson Gardiner, *Egyptian Grammar*, Oxford University Press, 1957, p. 476.
[89]Bridget McDermott, *Decoding Egyptian Hieroglyphs: How to Read the Secret Language of the Pharaohs,* Book Sales, 2016, p. 29.
[90]Stanley Finger, Marco Piccolino, *The Shocking History of Electric Fishes: From Ancient Epochs to the Birth of Modern Neurophysiology*, OUP USA, 2011, p. 22.
[91]Hope B. Werness, *Continuum Encyclopedia of Animal Symbolism in World Art*, A&C Black, 2006, p. 166.
[92]Gay Robin, *Women in ancient Egypt,* Harvard University Press, 1993, p. 188.
[93]https://fishbase.mnhn.fr/summary/Oreochromis-niloticus.html Accessed on 21-1-2022.
[94]https://nantt44.wordpress.com/tag/mer-rouge/ Accessed on 21-1-2022.

Fig 14: Upper: Icon 11 of the lower register of Punt relief on southern wall of the middle colonnade at Deir El-Bahari temple.

After: https://www.pinterest.com/pin/604608318709339973/ Accessed on 22-1-2022.

Lower: The Nile tilapia (*Oreochromis niloticus*)

After: https://bassonline.com/freshwater-species/spotted-tilapia/ Accessed on 21-1-2022.

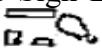
10- Family Tetraodontidae: Puffer-fish (*Arothron diadematus*)

The Tetraodontidae is a family that contains 193 species of puffers in 28 genera, living usually in warm waters, they are typically small to medium in size; only few species can reach lengths greater than 50 cm. most puffer-fish species live in marine waters, but about 35 species live in fresh water.[95] Due to the puffer's slow locomotion which makes it an easy predation target, it has excellent eyesight which is the first and most important defense against predators.[96] The puffer-fish's secondary defense mechanism is to fill its elastic stomach with water or air when outside the water until it is much larger in shape. All puffers have pointed spines, so a hungry predator may face an unpalatable, pointy ball rather than an easy meal. The majority of the puffer-fish's species are toxic and some are among the most poisonous creatures in the world. In certain species, the internal organs and sometimes the skin contain Tetrodotoxin

[95]Tyson R Roberts, 'The Southeast Asian freshwater pufferfish genus Chonerhinos (Tetraodontidae), with descriptions of new species'. Proceedings *of the California Academy of Sciences*, Vol 43, 1982, p. 1-16.

[96]John R Paxton, William N Eschmeyer, *Encyclopedia of Fishes*. San Diego Academic Press, 1998, p. 230-231.

(TTX), and are highly toxic. It does not always have a lethal effect on large predators, such as sharks, but it can kill humans.[97]

Puffer poisoning was known in ancient Egypt,[98] The earliest existence of engravings of puffer fish dates back to the fifth dynasty (2500 BC) Egyptian tombs. According to Gardiner's Sign List, number K7 describes the Egyptian hieroglyph of a Nile puffer fish (š*pt*)  as a determinative of troublesome, be discontented.[99] Obviously, the meaning of this determinative led the researcher to believe that the ancient Egyptians were fully aware of the toxic effect of this fish which interferes with the transmission of signals from the nerves to the muscles leading to paralysis while the victim stays fully conscious, unable to breathe, and eventually dies from asphyxiation.[100]

The depicted figure of the puffer fish at the temple of Deir El-Bahari is extremely similar to many types of the puffer-fish; it is even very similar to the Nile River Fahaka puffer-fish, (*Tetraodon lineatus*) known as the Nile puffer,[101] which is depicted in many Old Kingdom fishing scenes in Saqqara, like the tombs of Ti, Kagemni and Mereruka, Middle Kingdom tomb of Khnumhotep II at Beni Hassan[102] and New Kingdom tomb of Nebamun.[103] It means that the artist was used to seeing the anatomy of this fish at the Nile Valley before meeting the marine version of it either in the Mediterranean or the Red Sea.

Once again, the researcher deduced that the depiction of the toxic Puffer-fish at the beginning of the line might have a religious purpose; the artist might have been seeking the protection of this dangerous fish. According to Dietrich Sahrhage, the Nile puffer fish was widespread and its tasty meat was highly valued. It must have been quite difficult to prepare since the fish contained extremely potent toxins.[104] it is not proven whether these puffer fish were worshiped as sacred animals in several places, such as Aswan, Elephantine and Nebyt / Kom Ombo, though it appearance of the fish indicated to the ancient Egyptians the arriving of the Nile flood.[105]

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[97]Shiro Itoi, Saori Yoshikawa, Kiyoshi Asahina, Miwa Suzuki, Kento Ishizuka, Narumi Takimoto, Ryoko Mitsuoka, NaotoYokoyama, Ayumi Detake, Chie Takayanagi, Miho Eguchi, Ryohei Tatsuno, Mitsuo Kawane, Shota Kokubo, Shihori Takanashi, Ai Miura, Katsuyoshi Suitoh, Tomohiro Takatani, Haruo Sugita, 'Larval pufferfish protected by maternal tetrodotoxin', *Toxicon journal,* Vol 78, 2014, p. 35-40.,

[98]Bruce W. Halstead, *Poisonous and Venomous Marine Animals of the World: Invertebrates*, U.S. Government Printing Office, 1965, p. 47.

[99]Sir Alan Henderson Gardiner, *Egyptian Grammar*, Oxford University Press, 1957, p. 594.

[100]Kwok-Kew Cheng, Yen-Lip Ling, James Chi-Ching Wang, 'The failure of respiration in death by tetrodotoxin poisoning', *Quarterly Journal of Experimental Physiology and Cognate Medical Sciences*, Vol 53, Issue 2, 1968, p. 119-128.

[101]https://animal-world.com/encyclo/fresh/Puffers/FahakaPuffer.php#:~:text=Venomous Accessed on 12-1-2022.

[102]https://www.researchgate.net/figure/Khnumhotep-II-spearing-fish-and-attendant-with-reel-from-Tomb-BH3-Beni-Hasan_fig4_344016183 Accessed on 12-1-2022.

[103]http://www.ancient-egypt.co.uk/british%20museum/pages/Mar_2009_0589.htm Accessed on 12-1-2022.

[104]Dietrich Sahrhage, *Fishing and fish cult in ancient Egypt*, von Zabern, Mainz, 1998, p. 77-82.

[105]Dietrich Sahrhage, *Fishing and fish cult in ancient Egypt,* von Zabern, Mainz, 1998, p. 144–146.

Two of the most common species of the Puffer-fish family in the Red Sea is the Bristly Puffer Fish (*Arothron Hispidus*) and the masked puffer (*Arothron diadematus*). This Masked puffer is distributed only in the Red Sea, around 30 cm long, (almost the same size of the Nile Fahaka puffer-fish), often seen in small schools near the shallow coral reef.[106] It is believed that the masked puffer is the one at the temple of Deir El-Bahari. There is a very high possibility of seeing this fish at shallow depths which might have been observed during the journey to the land of Punt. (Fig 15)

Fig 15: Upper: The depicted Puffer-fish, icon 1 on the lower register of Punt relief on southern wall of the middle colonnade from mortuary temple of Hatshepsut.

After: The researcher, December 2022.

Lower: The Masked puffer-fish of the Red Sea.

After: http://www.ryanphotographic.com/tetraodontidae.htm Accessed on 13-1-2022.

Conclusion

For the first time in the ancient Egyptian history we meet a rich documentation of the marine creatures depicted among the scenes of the expedition to the land of Punt on the walls of the middle colonnade of the mortuary temple of Queen Hatshepsut in El Deir el-Bahari, west of Luxor. Studying these marine creatures will reveal important information about the nature of this is expedition as it was an exploring expedition as much as it was a commercial expedition. Also the identification of these depicted creatures would not only expand the knowledge of the types of aquatic animals that were observed and deemed important by the ancient Egyptians, but also would help in narrowing the search for the exact location of the Land of Punt. In this article the researcher selected some examples to discuss either historically or biologically, such as: the Reptile: Turtle, the Mollusk: Squid, the Crustacean: lobster and a number of examples of the Red Sea/Indian Ocean fish, some of which are endemic to the Red

[106] Eric Hanauer, *The Egyptian Red Sea: A Diver's Guide,* Aqua Quest Publications, Inc., 1988, p. 103.

Sea only and also described one of the fresh water fish; Tilapia and the logic behind depicting it.

Bibliography

1. Adolf Erman, *Wörterbuch der Aegyptischen Sprache*, vol.4, Berlin, 1971.
2. Adolphe Gutbub, *La tortue animal cosmique bénéfique*, France, 1979.
3. Alan Henderson Gardiner, *Egyptian Grammar*, Oxford University Press, 1957.
4. Alan Houghton Brodrick, *Animals in Archaeology,* Praeger, 1972.
5. Alessandra Nibbi, 'Remarks on the Two Stelae from the Wadi Gasus', *Egypt Exploration Society*, 1976.
6. Alfred Wallis Budge, *Egyptian Hieroglyphic Dictionary*, Part I, Montana, 2003.
7. Brian Groombridge, *Marine Turtles in the Mediterranean: Distribution, Population Status, Conservation,* Council of Europe, 1990.
8. Bridget McDermott, *Decoding Egyptian Hieroglyphs: How to Read the Secret Language of the Pharaohs,* Book Sales, 2016.
9. Bruce W. Halstead, *Poisonous and Venomous Marine Animals of the World: Invertebrates*, U.S. Government Printing Office, 1965.
10. C. von Vaupel Klein, *Treatise on Zoology - Anatomy, Taxonomy, Biology, The Crustacean,* Vol 4, BRILL, 2014.
11. C.L. Dayton, 'Genetic evolution among selected members of the genus Naso (Nasinae), "unicorn fishes" from Guam', *Marine Biology*, Vol 139, issue 5, 2001.
12. Carl D Webster, Chhorn Lim, *Tilapia: Biology, Culture, and Nutrition*, CRC Press, 2006.
13. Carl H Ernst; Roger W Barbour, *Turtles of the World*, Washington, 1989.
14. Dennis Holley, *General Biology II: Organisms and Ecology, Vol 2*, Dog Ear Publishing, 2017.
15. Diane Victoria Flores, *Funerary Sacrifice of Animals in the Egyptian Predynastic Period*, Archaeo press, 2003.
16. Dietrich Sahrhage, *Fishing and fish cult in ancient Egypt*, von Zabern, Mainz 1998.
17. Dimitri Meeks, Christine Favard-Meeks, *Daily Life of the Egyptian Gods*, Cornell University Press, 1993.
18. Dorthea Arnold, 'An Egyptian Bestiary', *Bulletin of the Metropolitan Museum of Art,* Vol: 52, 1995.
19. Douglas J. Brewer, Renée F. Friedman, *Fish and Fishing in Ancient Egypt,* AUC Press, 1990.
20. Edna R. Russmann, *Eternal Egypt: Masterworks of Ancient Art from the British Museum*, University of California Press, 2001.
21. Edouard Naville, The Temple of Deir El Bahari, Part 3, 1898, London.
22. Ehud Spanier, 'The Utilization of Lobsters by Humans in the Mediterranean Basin from the Prehistoric Era to the Modern Era', *Athens Journal of Mediterranean Studies*, Vol 1, Issue 3, 2014.
23. El-Zanfaly HT, Ibrahim AA*, 'Boulti (Tilapia nilotica Linn.) fish paste 1. Preparation and chemical composition',* Zeitschrift für Ernährungswissenschaft, Vol: 19, no: 31980, 1980.
24. Emmanuel Nantet, *Sailing from Polis to Empire: Ships in the Eastern*

Mediterranean during the Hellenistic Period, Cambridge, UK, 2020.
25. Eric Hanauer, *The Egyptian Red Sea: A Diver's Guide,* Aqua Quest Publications, 1988.
26. Eugene G. Maurakis, *Comparison of Aquatic Life Depicted in Illustrations and Plaster Casts of the Punt Relief from the Temple of Hatshepsut at Deir El-Bahari, Virginia Journal of Science,* Vol 56, No 4, 2005.
27. François Conand, Biology and Phenology of Amblygaster sirm (Clupeidae) in New Caledonia, a Sardine of the Coral Environment, "*Bulletin of Marine Science*", Vol 48, 1991.
28. Gay Robin, *Women in ancient Egypt,* Harvard University Press, 1993.
29. "General Authority for Fish Resources Development" (GAFRD), *Annual fishery statistics report*, Cairo, 2019.
30. Heiko Riemer, Nadja Pöllath, Michael Herb, Frank Förster, *Desert animals in the eastern Sahara: status, economic significance, and cultural reflection in antiquity*, Heinrich-Barth-Institut, 2009.
31. Heinrich Schäfer, *Principles of Egyptian Art*, Clarendon Press, Oxford, 1974.
32. Helaine Selin, *Encyclopedia of the History of Science, Technology, and Medicine in Non-Western Cultures,* Springer Science & Business Media, 2008.
33. Henry George Fischer, *Ancient Egyptian Representations of Turtles*, Metropolitan Museum of Art, 1968.
34. Henry George Fischer, 'Egyptian Turtles', *The Metropolitan Museum of Art Bulletin*, Vol. 24, 1966.
35. Hope B. Werness, *Continuum Encyclopedia of Animal Symbolism in World Art*, A&C Black, 2006.
36. Ian Shaw, Paul Nicholson, *The Dictionary of Ancient Egypt*, London, 1995.
37. James Augustus Henry Murray, Henry Bradley, William Alexander Craigie, Charles Talbut Onions, A New English Dictionary on Historical Principles, Vol 8, Clarendon Press, 1914.
38. James Henry Breasted, *Ancient Records of Egypt: The eighteenth dynasty*, University of Illinois Press, 2001.
39. Jeffrey Spier, *Ancient gems and finger rings: catalogue of the collections*, Nissha Printing Co, 1992.
40. Joachim Boessneck, *The animal world of ancient Egypt, Investigated on the basis of cultural-historical and zoological sources,* Munich 1988.
41. John F. Nunn, *Ancient Egyptian Medicine*, University of Oklahoma Press, 2002.
42. John Henry Breasted, *Ancient Records of Egypt: Historical Documents from the Earliest Times to the Persian Conquest*, vol. 1, Chicago, 1906–1907.
43. John R Paxton, William N Eschmeyer, *Encyclopedia of Fishes*. San Diego Academic Press, 1998.
44. Joseph Gaer, *The Lore of the Old Testament*, Little, Brown, 1951.
45. Kwok-Kew Cheng, Yen-Lip Ling, James Chi-Ching Wang, 'The failure of respiration in death by tetrodotoxin poisoning', *Quarterly Journal of Experimental Physiology and Cognate Medical Sciences*, Vol 53, Issue 2, 1968.
46. Laith A. Jawad, *Dangerous Fishes of the Eastern and Southern Arabian Peninsula*, Springer, 2017.
47. Marwa Abd el-Maguid el-Kady, 'The Religious Concept of the Dual Character of

the Turtle in Graeco-roman Egypt', *The scientific magazine*, Vol 8, Alexandria University, 2011, p. 55-70.

48. Marwa Abd el-Maguid, 'The Religious Concept of the Dual Character of the Turtle in Graeco-roman Egypt', *the scientific magazine of Faculty of Tourism and Hotels,* vol 8, Alexandria University, 2011.
49. Marwan Ibrahim Al-Kaysi, *Morals and Manners in Islam: A Guide to Islamic Adab,* Kube Publishing Ltd, 2015.
50. Mohamed Hichem Kara, Jean-Pierre Quignard, *Fishes in Lagoons and Estuaries in the Mediterranean 3B: Migratory Fish,* John Wiley & Sons, 2019.
51. Mohamed Samy-Kamal, Status of fisheries in Egypt: reflections on past trends and management challenges, '*Reviews in Fish Biology and Fisheries*', Vol 25, issue 4, 2015.
52. Ogden Goelet, 'wAD-wr, Punt, and Wadi Hammamat: The Implication of Verbs of Motion Describing Travel', *Abgadiyat*, issue no 11, 2016.
53. Paolo Parenti, John E. Randall, *Checklist of the species of the families Labridae and Scaridae: an update,* Smithiana Bulletin No. 13, 2011.
54. Patrick F. Houlihan, T*he Animal World of the Pharaohs*, AUC Press, Cairo, 1996.
55. Peter Vine, *Red Sea Invertebrates*, Immel, 1986.
56. Plaut , L & L. Fishelson, Population structure and growth in captivity of the spiny lobster Panulirus penicillatus from Dahab, 'Gulf of Aqaba, *Red Sea', Marine Biology magazine,* Vol 111, issue 3, 1991.
57. Rafik Riad, 'Monograph of the Egyptian Squids Order: Teuthoidea (Cephalopoda: Mollusca) Part II', *Egyptian Journal of Aquatic Biology & Fisheries*, Vol. 24, Ain Shams University, 2020.
58. Raymond Faulkner, *The Egyptian Book of the Dead: The Book of Going Forth by Day*, San Francisco, 1994.
59. Richard J. King, *Lobster*, Reaktion Books, 2012.
60. Richard Jasnow, Karl-Theodor Zauzich, *The Ancient Egyptian Book of Thoth: A Demotic Discourse on Knowledge and Pendant to the Classical Hermetica*, vol 1, Otto Harrassowitz Verlag, 2005.
61. Roy P Mackal, *Living Dinosaurs? In Search of Mokele-Mbembe*, Brill, 1987, p. 270.
62. Sabry Sadek Elserafy, Alaa El-Din, Alaa Eldin Ahmed Elhaweet, Azza El-Ganainy, 'Qarun Lake Fisheries : Fishing Gears, Species Composition and Catch per Unit Effort', *Egyptian Journal of Aquatic Biology and Fisheries*, Vol. 18, No. 2, 2014.
63. Sayed Abdel Monem, *Discovery of the site of the 12th dynasty port at Wadi Gawasis on the Red Sea shore*, RdE 29, 1977.
64. Sergey V. Bogorodsky, John E. Randall, *Endemic Fishes of the Red Sea*, Springer International Publishing, 2019.
65. Shelley Wachsmann, 'On the Interpretation of Watercraft in Ancient Art', Institute *of Nautical Archaeology*, Switzerland, 2019.
66. Shiro Itoi, Saori Yoshikawa, Kiyoshi Asahina, Miwa Suzuki, Kento Ishizuka, Narumi Takimoto, Ryoko Mitsuoka, Shihori Takanashi, Ai Miura, Katsuyoshi Suitoh, Tomohiro Takatani, Haruo Sugita, 'Larval pufferfish protected by maternal tetrodotoxin', *Toxicon journal,* Vol 78, 2014.

67. Simson R. Najovits, *Egypt, Trunk of the Tree, Vol. I: A Modern Survey of an Ancient Land*, Algora Publishing, 2003.
68. Stanley Finger, Marco Piccolino, *The Shocking History of Electric Fishes: From Ancient Epochs to the Birth of Modern Neurophysiology*, OUP USA, 2011.
69. Steindorff, George, 'The Magical Knives of Ancient Egypt', *The Journal of Walters Art Gallery,* No *9*, 1946.
70. Trevor Day, *Sardine*, Reaktion Books, 2018.
71. Tyson R Roberts, 'The Southeast Asian freshwater puffer fish genus Chonerhinos (Tetraodontidae), with descriptions of new species', *Proceedings of the California Academy of Sciences*, Vol 43, 1982.
72. Waldo L. Schmitt, 'Crustaceans: shelled invertebrates of the past and present. Part II', *Smithsonian Scientific*, Series 10, 1931.
73. Wessam E. R. Elsayed , Asaar S. H. El-Sherbeny , Mohamed A. Abu El-Regal , Mohamed S. A. El-Sabbagh, 'Reproductive Dynamics of Indian Squid, Uroteuthis duvaucelii (Cephalopoda: Loliginidae) of the Suez Gulf, Red Sea', Egypt, *Egyptian Journal of Aquatic Biology & Fisheries*, Vol. 24, Ain Shams University, 2021.
74. Winston E. Ponder, Winston Ponder, David R. Lindberg, *Phylogeny and Evolution of the Mollusca,* University of California Press, 2008.
75. [1]Yvonne Sadovy, Michel Kulbicki, Pierre Labrosse, Y. Letourneur, 'The Humphead Wrasse, Cheilinus undulatus: synopsis of a threatened and poorly known giant coral reef fish'*, Fish Biology and Fisheries*, Vol: 13, no: 2, 2003.

Websites:

1. http://www.ancientegypt.co.uk/british%20museum/pages/Mar_2009_0589.htm Accessed on 12-1-2022.
2. http://www.aquaticcommunity.com/tilapia/history.php#:~:text=One%20of%20the%20oldest%20examples,was%20given%20its%20own%20hieroglyph. Accessed on 21-1-2022.
3. https://academic.eb.com/levels/collegiate/article/unicorn-fish/74250 Accessed on 16-1-2022.
4. https://animal-world.com/encyclo/fresh/Puffers/FahakaPuffer.php#:~:text=Venomous Accessed on 12-1-2022.
5. https://blog.scubatravel.com/findex-with-jim/humphead-wrasse-cheilinus-undulatus/ Accessed on 19-1-2022.
6. https://dbpedia.org/page/Soleidae Accessed on 19-1-2022.
7. https://fishbase.mnhn.fr/summary/1501 Accessed on 28-1-2022.
8. https://fishbase.mnhn.fr/summary/Oreochromis-niloticus.html Accessed on 21-1-2022.
9. https://fishbase.mnhn.fr/Summary/SpeciesSummary.php?ID=25420&AT=Arabisk+picassofisk Accessed on -1-2022.
10. https://nantt44.wordpress.com/tag/mer-rouge/ Accessed on 21-1-2022.
11. https://second.wiki/wiki/fisch_im_alten_c384gypten Accessed on 23-12-2021.
12. https://www.etymonline.com/word/sole Accessed on -1-2022.

13. https://www.fishbase.de/summary/11707 Accessed on 19-1-2022.
14. https://www.hepca.org/projects/project/115 Accessed on 9-12-2021.
15. https://www.monaconatureencyclopedia.com/rhinecanthus-assasi/?lang=en Accessed on 16-1-2022.
16. https://www.researchgate.net/figure/Khnumhotep-II-spearing-fish-and-attendant-with-reel-from-Tomb-BH3-Beni-Hasan_fig4_344016183 Accessed on 12-1-2022.
17. https://www.ucl.ac.uk/museums-static/digitalegypt/religion/turtles.html Accessed on 2-11-2021.
18. https://xoomer.virgilio.it/francescoraf/hesyra/egypt/turtles.htm Accessed on 5-12-2021.

دراسة تاريخية وبيولوجية للكائنات البحرية المصورة بمعبد الدير البحري

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الملخص:

يتناول هذا المقال الرُّسُوم الجدارية الخاصة بالكائنات البحرية التي ظهرت اسفل مراكب الأسطول المصري المتجه إلي بلاد بونت في الممر الأوسط بالمعبد الجنائزي الخاص بالملكة حتشبسوت بالدير البحري في غرب الأقصر. النقش الذي يعودا لي القرن الخامس عشر قبل الميلاد هو من اهم واندر النقوش التي توثق الكائنات البحرية في التاريخ المصري القديم. يتناول الباحث الجوانب التاريخية و البيولوجية لمجموعة مختارة من الكائنات البحرية المنقوشة بالمعبد مثل: السلحفاة، الحبار، الأستاكوزا، هذا إلى جانب مجمعة من اسماك البحر ألأجمر وأيضا احد أمثله اسماك المياه العذبة و هو سمك البلطي وتناول بعض الاقتراحات التي قد تفسر أسباب وجود اسماك النيلية بين الأسماك البحرية. ودراسة هذه الكائنات البحرية ستكشف معلومات مهمة عن طبيعة الرحلة إلى بلاد بونت، فقد كانت رحلة استكشافية بقدر ما كانت رحلة تجارية. أيضا تحديد هذه المخلوقات المصورة لن يؤدي فقط إلى توسيع المعرفة بأنواع الحيوانات المائية التي لاحظها المصريون واعتبارها مهمة، بل سيساعد أيضًا في تضييق نطاق البحث عن الموقع الجغرافي الدقيق لأرض بونت.

الكلمات الدالة : الدير البحري – الأسماك – حتشبسوت – بونت – مصر القديمة.