

FISH MUMMIES IN THE COLLECTIONS OF THE NÁPRSTEK MUSEUM – PRELIMINARY REPORT

Pavel Onderka – Tomáš Přikryl¹

ABSTRACT: The National Museum – Náprstek Museum of Asian, African and American Cultures, Prague, keeps within its collection four ancient Egyptian fish mummies. The specimens were recently examined using computed tomography as a part of the *Atlas of Egyptian Mummies Project in the Czech Collections*. Preliminary results of the examination using the most advanced, non-destructive radiological methods indicated that the original taxonomical determination of the mummified fish, examined previously by the team led by Eugen Strouhal in the 1970s, as *Polypterus* sp. (and *Gymnarchus niloticus*) was not confirmed. Recently, the specimens were classified as belonging to the Siluriformes order.

KEYWORDS: fish mummies – ancient Egyptian mummification – computed tomography

Introduction

Generally speaking, ancient Egyptian fish mummies have so far received only limited attention, compared with mummies of animals belonging to other taxonomical units. They have scarcely been included in exhibitions and catalogues dedicated to fauna of ancient Egypt² or ancient Egyptian mummification.

Mummies of fish were discovered within several animal cemeteries, including those at Taposiris Magna, Esna, Manfalut, Medinet Gurab, Qus, Sais, Thinis/Naga el-Mesheikh,³ Gebelein,⁴ and at other sites usually associated with the worship of fish deities, above all the fish goddess Hatmehit (literally ‘Foremost of the Fish’).⁵ Fish cults flourished in other cities of Egypt, including Dendera, Oxyrhynchos, Lepidotos, etc.

Fish mummies are generally dated to the Late, Ptolemaic, and Roman Periods (714 BCE – 395 CE), i.e. the timespan corresponding to the rise of ancient Egyptian

1 Contacts: Pavel Onderka, National Museum – Náprstek Museum of Asian, African and American Cultures, Prague, Czech Republic; e-mail: pavel.underka@nm.cz; Tomáš Přikryl, Institute of Geology of the Czech Academy of Sciences, Prague, Czech Republic; e-mail: prikryl@gli.cas.cz. This work was financially supported by the Ministry of Culture of the Czech Republic (DKRVO 2019–2023/18.I.a); the research of Tomáš Přikryl was supported by the Institute of Geology of the Czech Academy of Sciences (RVO67985831).

The present authors are grateful to Gabriela Vrtalová (Náprstek Museum), Wim Wouters (Royal Belgian Institute of Natural Sciences) as well as Jakub Nekula and Markéta Konrádová (Affidea Praha) for their contribution to the present paper.

2 e.g. Guichard 2014, p. 307, Cat. No. 342.

3 Ikram, ed. 2005, pp. xvii–xx.

4 Sahrhage 1998, p. 143, Abb. 68C.

5 Cf. Gamer-Wallert 1970; Sahrhage 1998, pp. 135–153.

animal cults in their popularity. Esna, the place of worship of *Lates niloticus*, is the most frequently mentioned as the place of origin of fish mummies that are kept in collections of Western museums.

Several fish taxa were identified inside the mummies during their autopsies⁶ by means of computed tomography examination,⁷ including representatives of families Mormyridae, Cyprinidae, Bagridae, Clariidae, Mochokidae, Schilbeidae, Mugilidae, Latidae, and Tetraodontidae.⁸

Four fish mummies in the Náprstek Museum

The Náprstek Museum of Asian, African and American Cultures keeps within its collection four fish mummies (Inv. Nos. P 604, P 605, P 606, P 610a). According to Strouhal, all four specimens allegedly formed a part of the 'old funds' of the Náprstek Museum.⁹ This rather vague determination implies that the Náprstek Museum accessioned the pieces before the year 1969 when the museum's Ancient Near East and Africa Department was established.

The newly established department was created to host all ancient Egyptian, Nubian, North African and Near Eastern antiquities kept in various departments of the National Museum under one roof. The objects that were present in the Náprstek Museum before the creation of the department were all labelled as its 'old funds'.

There were a couple of collectors who contributed to the 'old funds' of the Náprstek Museum before 1945. By the end of the World War II, the Náprstek Museum's Egyptian collection consisted of few antiquities. However, still during the interwar period, the National Museum deposited some of its Egyptian antiquities, including two coffins, in the Náprstek Museum. These objects remained in the Náprstek Museum during the World War II, in the course of which the Náprstek Museum became a part of the National Museum. After the end of the World War II, several sets of Egyptian objects were transferred to the Náprstek Museum from the regional museum in former Sudetenland, following the confiscation of German property within the Czechoslovak borders based on the Beneš Decrees. However, no direct mention of fish mummies is found in the relevant transfer protocols. As a result, in 1969, the 'old funds' represent a rather heterogeneous collection of smaller sets of antiquities of varying original provenances.

Based on the characteristics of the collection, it has been recently considered that the fish mummies might have formed part of a collection that was donated to the National Museum by the German Egyptologist, Ludwig Keimer (1892–1957) in 1938, but this hypothesis was rejected based on the study of available archival material.

Another hypothesis – which can neither be proved nor refuted – connects the fish mummies with the name of Ignaz Pallme (1806–1877), who was active in Egypt and the Sudan in 1830s and 1840s and whose extensive collections were transferred to

6 e.g. Brier and Bennett 1979; Leek 1976.

7 e.g. The Ancient Egyptian Animal Bio Bank Project, (*undated*) of the University of Manchester.

8 Brier and Bennett 1979; Ikram 2005; Kessler and Nur el-Din 2005; Gaillard and Daressy 1905; Leek 1976; Redford and Redford 2005.

9 Strouhal and Vyhnánek 1979, p. 131.

the National Museum after 1945 from Kamenický Šenov.¹⁰ The association of the fish mummies with the Ignaz Pallme mainly relies on the fact that his collection positively included several animal mummies that allegedly came from the environs of Esna, a primary site connected with fish mummies.

Previous research

The four fish mummies kept in the collections of the Náprstek Museum were scientifically examined at the beginning of the 1970s, when Eugen Strouhal (1931–2016) and Luboš Vyhnánek (1928–1999) carried out their research on the ancient Egyptian mummies kept in the public collections of former Czechoslovakia. The fish mummies were examined in cooperation with the zoologist Jan Hanzák (1923–1994), who in 1977 published a preliminary report on the taxonomical determination of the animal mummies. In this report, Hanzák wrote that amongst the animal mummies kept in Czechoslovak collections fish mummies were:

represented insignificantly and in such a pitiful condition that an exact [taxonomical] identification is impossible. It is highly plausible to consider the four cases as the genus *Bichir* (*Polypterus*) belonging to the order Polypteriformes. The next case probably belongs to *Gymnarchus niloticus*. One fish was mummified together with five young crocodiles.¹¹

The final report on the research was published in 1979.¹² Strouhal and Vyhnánek wrote the chapter dedicated to ‘Mummies of Fish and Reptiles’ in cooperation with Jan Hanzák and another zoologist, Jiří Čihař (1930–2009).¹³ In contrast to the preliminary report, the final report did not make any allusion to the specimen of *Gymnarchus niloticus*; as it only listed four fish mummies identified with a varying degree of certainty as *Polypterus* sp.¹⁴ The four specimens in question were the subject of the current examination and the present study relates solely to them. The fifth specimen mentioned by Hanzák was not located.¹⁵

Current research

The determinations of the specimens to the Polypteridae and Gymnarchidae families are singular for ancient Egyptian fish mummies. This fact induced revising study of the specimens in question with the purpose of recapitulating verifiable historical realities and to possibly reopen a discussion of the taxonomic determination of the mummified fish species.

All four fish mummies from the collections of the Náprstek Museum were examined using computed tomography in the Affidea Praha facilities (formerly Mediscan Group), the Náprstek Museum’s partner in the long-term project of the Atlas of Egyptian Mummies in

¹⁰ e.g. Zach 2002.

¹¹ Hanzák 1977, p. 86.

¹² Strouhal and Vyhnánek 1979.

¹³ Strouhal and Vyhnánek 1979, pp. 130–134.

¹⁴ Strouhal and Vyhnánek 1979, pp. 130, 132.

¹⁵ Hanzák 1977, p. 86.

the Czechoslovak Collections. The objects were examined under the supervision of Jakub Nekula, né Pečený and Markéta Konrádová on the General Electric Revolution GSI engine.

Computed tomography has allowed us to obtain more detailed primary data and reopen the question of the taxonomic determination [Pls. 5–10]. All specimens show same morpho-anatomical characteristics attributing them to a single group. The combination of the general body shape, the dorsoventrally compressed head, the distribution of fins on the body, and the clearly recognisable presence of spines in the pectoral fins put the specimens to be member of the Siluriformes order ('catfish' in common language). Such determination is also supported by presence of recognisable long barbels.

The Siluriformes order comprises 40 families with about 490 genera and about 3,730 species.¹⁶ Mummified catfish discovered at various sites in Egypt belonged to four different taxonomic families, namely Bagridae, Clariidae, Mochokidae, and Schilbeidae. A more detailed determination of the specimens from the collection of the Náprstek Museum with focus placed on morphological details and taxonomically significant characters that are out of the scope of the present study will be detailed in a separate forthcoming report.

Embalming fish mummies

The four specimens kept in the collections of the Náprstek Museum enable us to see how fish were mummified. The present summary relies on the analyses of the material from the Náprstek Museum only, within which the archaeological context is lacking.

The mummification procedures seem to have consisted of evisceration or partial evisceration which followed the usual disembowelling of fish. The fish was then dried, while mummification substances needed to be used only to a certain extent. The peritoneal cavity either remained empty or was filled with stuffing, e.g. soil, to maintain the shape of the animal. Subsequently, the mummies were wrapped in textile.

Fish mummies, with respect to the way they were wrapped, generally appear in two basic forms: [A] an individually wrapped 'big fish', and [B] bundles containing several separately wrapped 'small fish'. Both types are represented in the collections of the Náprstek Museum.

While the outer appearances of both types share certain similarities, namely the visual separation of the head, body, and tail parts of the fish by means of textile bands, or eyes painted on the shroud, there are more aspects that differentiate them.

Type A, i.e. 'big fish' (including the Náprstek Museum, Inv. Nos. P 604, P 605, P 606), represents mostly adult individuals covered with three layers of wrapping: The mummified body of the animal is wrapped into unsightly linen bandages which are bound together with concentric windings of palm fibre ropes. The outer layer forms a shroud, usually consisting of three pieces of cloths, covering the head, the body, and the tail parts of the mummy, glued together by narrow textile bands.

The inner and middle layers of binding may be well demonstrated on the mummy of a Nile perch fish (*Lates niloticus*) kept in the collections of the World Museum in Liverpool,¹⁷ in the case of which the shroud (i.e. the outer layer of wrapping) is not

¹⁶ Nelson et al. 2016.

¹⁷ World Museum – National Museum Liverpool, Inv. No. 16.11.06.158; Mummified Fish, (undated).

preserved and as a result, the interior of the mummy wrapping is exposed. The body part of the mummy's shroud has been on several occasions fabricated in a highly sophisticated way, using interlaced dyed strips of material forming cassette or other geometrical patterns. The head, and tail part remain separated, however.¹⁸

Type B, i.e. the 'small fish' (including the Náprstek Museum, Inv. No. P 610a), represents juvenile individuals, encircled by narrow cloth bands, similarly to small crocodiles. Their eyes, as well as the division of the three bodily parts are indicated on these mummies.

Catalogue of fish mummies in the collections of the Náprstek Museum

No. 1

Náprstek Museum, Inv. No. P 604

Type A; l. 66 cm

Siluriformes (gen. et sp. indet.)

The skeleton of the fish is fully, or almost completely, articulated in the anterior half of the specimen. The rear half of the body suffers from strong artificial disarticulation. The vertebral column is segmented into several pieces with the length of three to eight vertebral centrae which were placed in their original location in a rather disorganised way.¹⁹ All fins, including the caudal one, are, nevertheless clearly recognisable. The spine has disintegrated into several dislocated segments. The gills are well preserved. The peritoneal cavity contains remains of desiccated viscera, wads of cloth, and a grainy non-homogenous filling, most likely a type of soil. The soil was used as a filling material that replaced eviscerated organs. The mummification process preserved a large cavity which might have been filled in with soil which, in turn, likely spilled out of the mummy after it was excavated. The partial evisceration seems to have progressed in a way that was usual for disembowelling fish. A cut through the belly can be identified in certain places.

The mummy of the fish was wrapped in three individual layers. The first – innermost – layer, as indicated by the CT examination, consisted of pieces of linen, into which the dried or mummified fish was wrapped. The internal wrappings seem to have been partly soaked in resin used for the mummification of the fish.

It was bound together with numerous concentric windings of fibre ropes, representing the second wrapping layer. The fibre ropes are visible on the CT images and can be seen under the looser parts of the outer wrapping. In all likelihood, the ropes were made of palm leaves;²⁰ however, this cannot be verified through non-invasive methods, as the outer shroud prevents access to the ropes. The windings begin at the head part of the fish. They appear very flat and it is difficult to identify them in CT scans.

The third, external, wrapping layer consisted of two large and two smaller pieces of fine linen forming a shroud. The head (frontal 15 cm), the body (central 35 cm),

18 e.g. two specimens from the collections of the Museum of Agriculture in Cairo; Sahrhage 1998, p. 145, Abb. 69.

19 This type of disarticulation is fully comparable with the case of the fish mummy described by Fellner 2016.

20 Based on parallels mentioned above.

and the tail (rear 15 cm) of the fish were wrapped individually – the head and the body were wrapped in two larger linen pieces, whilst two smaller ones were used for wrapping the tail. The piece placed at the very end of the shroud was shaped first, with the help of knots, and only then slid on the tail. The two small linen pieces were glued together to form a single unit. The three parts of the shroud were stuck together by narrow cloth bands encircling the body of the fish. The bands were soaked in resin prior their application and glued the three pieces of shroud together. The width of the bands was ca. 10 mm. A small piece of a patch-like linen sheet was glued to the bottom of the mummy at the place of the largest cross-section of the mummy. The patches are placed in the thickest part of the fish and serve to keep the should in place, or to cover the bottom belly part possibly not covered by the shroud.

The eyes of the fish were painted in a dark colour on the front shroud at the approximate respective location. They take the form of irregular circles.

Bibliography:

Strouhal and Vyhnánek 1979, p. 130, Cat. No. 100.

No. 2

Náprstek Museum, Inv. No. P 605

Type A; l. 33 cm

Siluriformes (gen. et sp. indet.)

The skeleton seems to be fully articulated with no obvious disarticulation. The skin shows cracks and ruptures in some places. Some soft tissue remnants can be found in the peritoneal cavity. Mummification fillings were not used. The gills and all fins are clearly visible.

The mummy of the second fish belonged to a younger individual when compared to the previous one. It is wrapped in a similar way to the previous specimen, except for the outer wrapping. The outer shroud consists of a single piece of fine textile, whilst only the tail (rear 6 cm) of the mummy is bound by a small piece of cloth (the tail part is 6 cm long), which keeps the entire shroud in place. The head (frontal 8 cm) is partitioned off from the rest of the body (central part 19 cm) using a textile band soaked in resin, hence having a darker colour, which encircles the body of the fish. A small piece of a patch-like linen is glued to the bottom of the mummy at the place of the largest cross-section of the mummy. The eyes of the fish were painted in a dark colour on the shroud at the approximate respective location. They take the form of irregular black dots. The fibre ropes are highly visible on the CT scans; their presence under the shroud may be detected tactually, too.

The fibre rope winding begins at the mouth of the fish, where a small knot is visible in CT images.

Bibliography:

Strouhal and Vyhnánek 1979, p. 130, Cat. No. 102.

No. 3

Náprstek Museum, Inv. No. P 606

Type A; l. 33 cm

Siluriformes (gen. et sp. indet.)

The mummy of the third fish was wrapped in a similar way to the previous two specimens, except for the outer shroud. The shroud was made of a rather coarse linen with frays at the edges. The head part (8 cm) and the tail part (6 cm) of the mummy are partitioned off from the body of the fish (21 cm) by two narrow linen bands (with a width of slightly less than 10 mm) similarly to previous specimens. Their colour is identical to that of the shroud, only minor traces of resin (or another glue) are visible at some spots on the bands. The shroud is fastened from below the mummy using a patch made of a finer linen. Fibre ropes are visible through a hole in the shroud of the second wrapping layer. The fibres may be verified tactually under the shroud in various places of the mummy. The eyes of the fish are painted on respective places of the shroud. They take the form of irregular black dots.

The skeleton is fully articulated with exception of two dislocations in the posterior half of the body. The vertebral column is interrupted in two places, firstly, in front of the anal fin and secondly, just behind it. Their relatively corresponding deposition and interruption of soft tissue in the given area seems to indicate that damage occurred only after the mummification process was completed. The gills and fins are all recognisable. The peritoneal cavity contains some remnants of desiccated viscera and soft tissues, homogenous fillings, and wads of cloth.

Bibliography:

Strouhal – Vyhnánek 1979: 130, Cat. No. 101.

No. 4

Náprstek Museum, Inv. No. P 610a

Type B; l. 17 cm

Siluriformes (gen. et sp. indet.)

The small mummy of a fish most likely came from a mummy bundle which, besides fish mummies, contained mummies of small crocodiles (Inv. Nos. P 610b, P 610c, P 610d, P 610e). One cannot rule out that the set of five animal mummies were associated with each other only later, when they entered museum collections.

All small mummies from the set, no matter the specimen they contained, were spirally wrapped into narrow, bandage-like, unsightly pieces of linen; however, the mummy of fish distinguishes from those of the crocodile by the visual partition of three parts of the fish's body by two cloth bands. Two layers of wrapping may be distinguished.

The head (4 cm) and the tail parts (13 cm) of the fish are tied by tiny strands keeping the bandages in place. The skeleton is semi-articulated with disarticulation of vertebral column recognisable just behind the head. There are at least three cutting areas; another dislocation was identified at the level of anal fin. The head clearly displays artificial dislocation from both sides of the lower jaw and a cutting of the left side of the mesethmoid. All the cuts in the anterior part of the body occurred before mummification. The origin of the dislocation in the posterior part of the body cannot be determined.

Bibliography:

Strouhal and Vyhnánek 1979, p. 132, Cat. No. 105.

Conclusion

The four examples of fish mummies kept in the collections of the Náprstek Museum belonging to two types of votive fish mummies were produced in the later phases of Pharaonic history, namely during the Late, Ptolemaic, and Roman Periods (ca. 747 BCE–395 CE).

The examination of the mummified fish did not only help to understand the inner structure of the wrapping, but more importantly enabled to revise the conclusion concerning the determination of the mummified species. The original determination as *Polypterus* sp. has been rejected and the specimens have been preliminarily attributed to the Siluriformes order.

Literature:

The Ancient Egyptian Animal Bio Bank Project, (*undated*). [online] Available at: <https://www.mummies.manchester.ac.uk/> [Accessed 6 September 2022].

Brewer, D. J. and Friedmanm, R. F. (1989). *Fish and Fishing in Ancient Egypt*. The Natural History of Egypt 2. Warminster: Aris & Phillips.

Brier, B. and Bennett, M. V. L. (1979). Autopsies on Fish Mummies. *The Journal of Egyptian Archaeology*, 65, pp. 128–133.

Fellner, F. A. (2016). “Cinematic rendering” of an Egyptian fish mummy with a fractured spinal column. *Global Imaging Insights*, 2(1), pp. 1–2.

Gaillard, C. and Daressy, G. (1905). *Catalogue général des antiquités égyptiennes du Musée du Caire*, Nos. 29501–29733 et 29751–29834: *La Faune Momifiée de l'Antique Égypte*. Cairo: Imprimerie de l'Institut Français d'Archéologie Orientale.

Gamer-Wallert, I. (1970). *Fische un Fischkulte im alten Ägypten*. Wiesbaden: Harrassowitz.

Guichard, H., ed. (2014). *Des animaux et des pharaohs. Le règne animal dans l'Égypte ancienne*. Paris: Coédition Somogy – Louvre éditions.

Hanzák, J. (1977). Egyptian mummies of animals in Czechoslovak Collections. *Zeitschrift für Ägyptische Sprache und Altertumskunde*, 104, pp. 86–88.

Ikram, S., ed. (2005). *Divine Creatures. Animal Mummies in Ancient Egypt*. Cairo – New York: The American University in Cairo Press.

Kessler, D. and Nur el-Din, A. (2005). Tuna al-Gebel. Millions of Ibises and Other Animals. In: Ikram, S., ed., *Divine Creatures. Animal Mummies in Ancient Egypt*. Cairo – New York: The American University in Cairo Press, pp. 120–164.

Leek, F. F. (1976). An ancient Egyptian mummified fish. *The Journal of Egyptian Archaeology*, 62, pp. 131–133.

Mummified Fish, (undated). *National Museums Liverpool*. [online] Available at: <https://www.liverpoolmuseums.org.uk/artifact/mummified-fish> [Accessed 6 September 2022].

Nelson, J. S., Grande, T. C. and Wilson, M. V. H. 2016. *Fishes of the World*. Hoboken: John Wiley and Sons Ltd.

Redford, S. and Redford, D. B. (2005). The Cult and Necropolis of the Sacred Ram at Mendes. In: Ikram, S., ed., *Divine Creatures. Animal Mummies in Ancient Egypt*. Cairo – New York: The American University in Cairo Press, pp. 164–198.

Sahrhage, D. (1998). *Fischfang und Fischkult im alten Ägypten*. Kulturgeschichte der antiken Welt 70. Mainz am Rhein: Philipp Von Zabern.

Strouhal, E. and Vyhnánek, L., eds. (1979). *Egyptian Mummies in Czechoslovak Collections*. Prague: National Museum.

Zach, M. (2002). Ignaz Pallme. Ein unbekannter Kolonialentwurf für Nordostafrika aus dem Jahr 1851. In: Sauer, W., hg., *k. u. k. kolonial. Habsburgermonarchie und europäische Herrschaft in afrika*. Wien – Köln – Weimar: Böhlau, pp. 79–109.

Pl. 1



No. 1

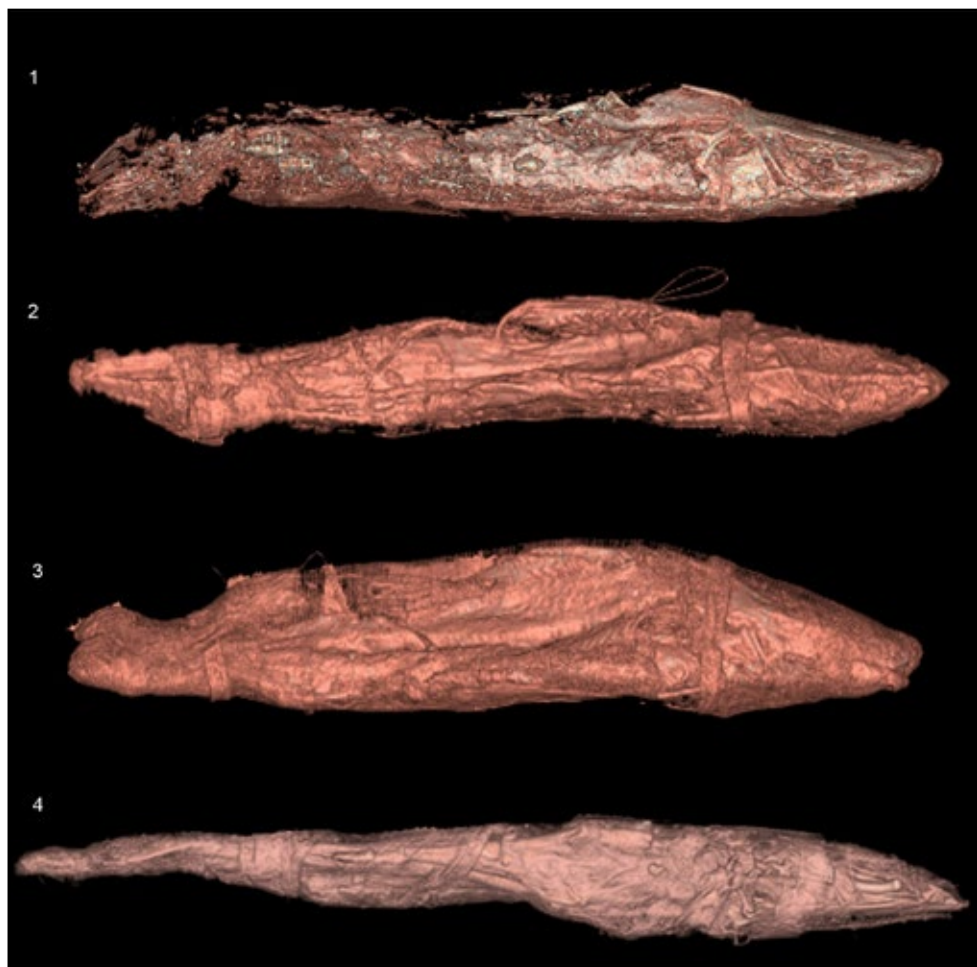


Pl. 3

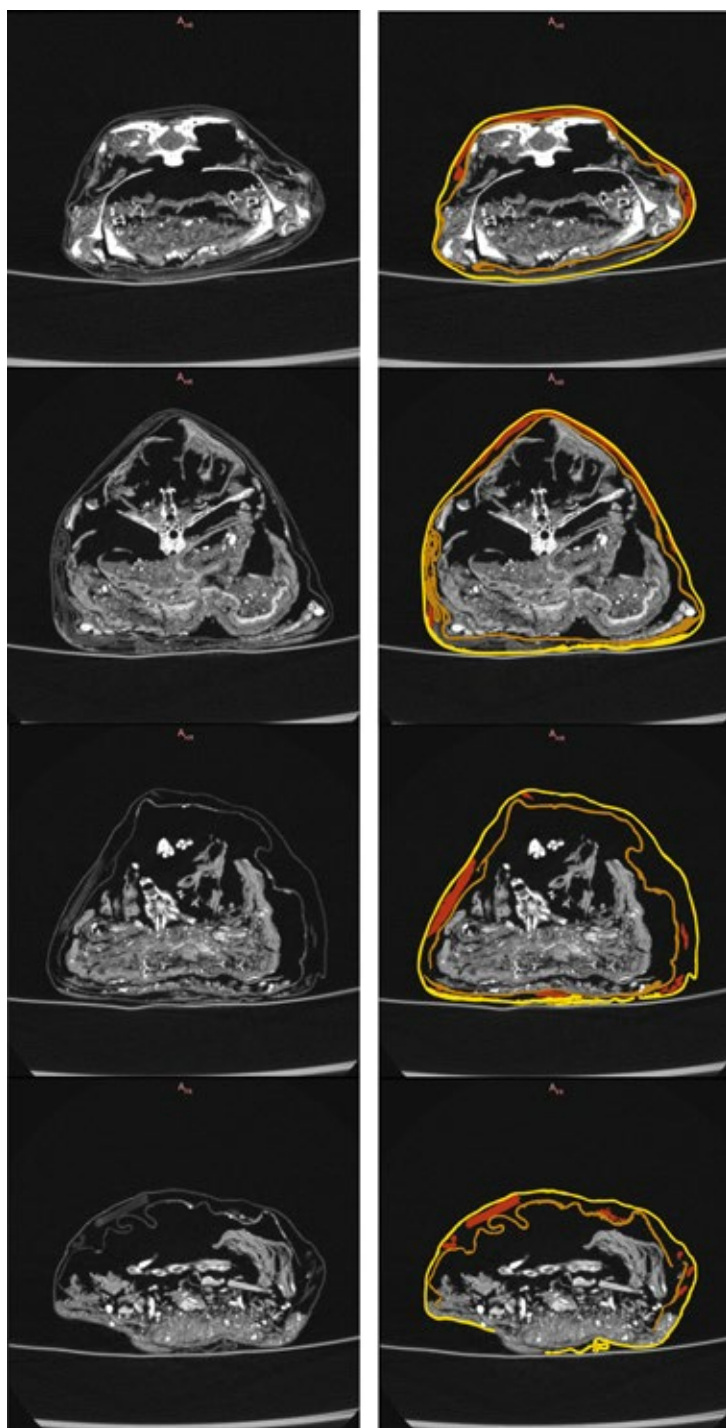


No. 3

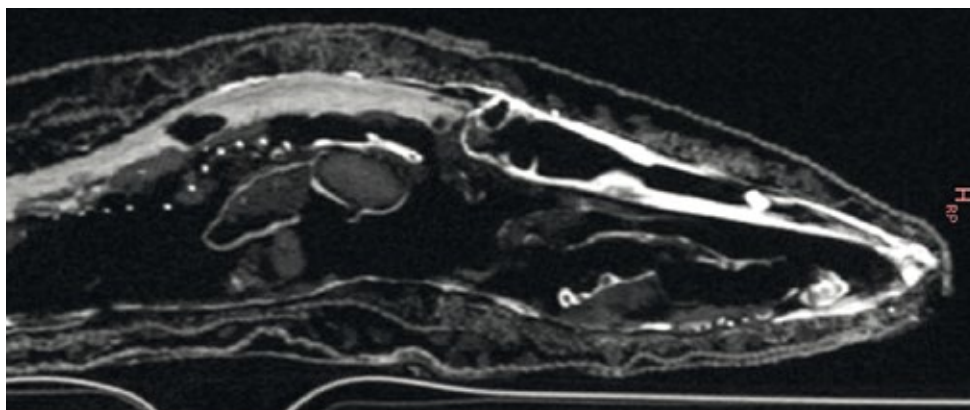




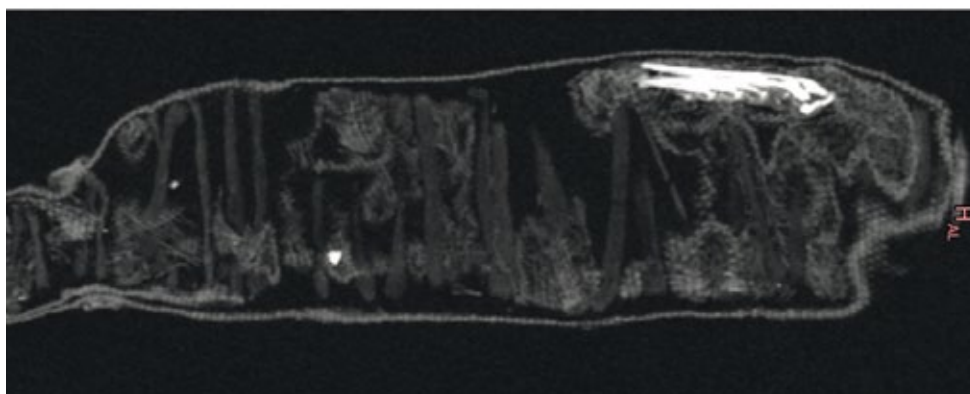
Pl. 5. CT scans of the four fish mummies from the collections of the Náprstek Museum, Inv. Nos. P 604, P 605, P 606, P 610a (Visualisation: Jakub Nekula, Markéta Konrádová).



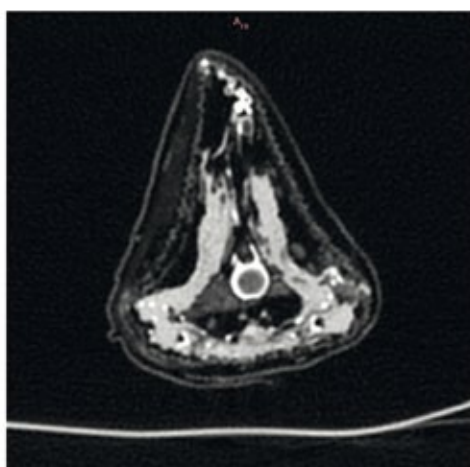
Pl. 6. Axial sections of the fish mummy Inv. No. P 604 with indication of individual layers of wrappings (outer layer in yellow; middle layer [fibre ropes] in red; inner layer in orange (Visualisation: Jakub Nekula).



Pl. 7. Frontal part of the fish mummy Inv. No. P 605 (Visualisation: Jakub Nekula).



Pl. 8. Section through layer of the fibre ropes on the side of the fish mummy Inv. No. P 605 (Visualisation: Jakub Nekula).



Pls. 9–10. Axial sections of the fish mummy Inv. No. P 606 with visible division of three layers of wrappings (Visualisation: Jakub Nekula).