

Aegyptus et Pannonia VII.



Acta Symposií anno 2021

BUDAPEST

Aegyptus et Pannonia VII.

Acta Symposii anno 2021

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Plants and Health Conference 2021, and the Proceedings

Dr. Hedvig Győry PhD

HEFT AEC president

In 2021, the HEFS Ancient Egyptian Committee, in partnership with the HNM Semmelweis Museum of Medical History, organised an international conference entitled “*Plants and Health from Ancient Egypt to the Present Day*”. The three-day conference focused on topics related to the application of plant material in medicine, but also included other topics connected to the use of plants in any practical or theoretical area of human life. We planned four sections with the following keywords:

History of healing and nutrition from the time of ancient Egypt to the present day

Which plants were used for healing, how, where, by whom and when, which plants were used to maintain health, or prevent disease in different parts of the world; what did people eat in everyday life, what were the festive foods/drinks, what were the expected results; and what are the related issues raised by ethnographic research.

Medicines and pharmaceutical science in historical periods in the light of sources

Who, how and why recorded knowledge of medicine in each period; what principles were used to treat patients or maintain health; what were/are the popular explanations of these issues or principles.

Herbal medicine and contemporary medicine

According to our current knowledge, what can we assess about the active ingredients of a given plant, the mechanism of action and its intensity, and what biochemical relationships can be discerned from their interactions.

Religious views and beliefs about plants

By whom, where, when, and what special magical properties have been attributed to plants, what is the role of plants in the social context, how is it explained, and how have plants been incorporated into everyday life/celebrations or healing practices

The conference was held between 14 and 16 October 2021 with 40 presentations. Due to the COVID pandemic, circumstances did not allow for a face-to-face meeting, so the event was entirely online. However, the possibilities offered by the Internet also allowed for smaller group discussions. The topics presented included the appearance and use of plants in different times and places, from ancient Egypt to contemporary Europe. They were divided into thematic and language (English and Hungarian) sessions, led by recognised scholars. After the lectures, it was possible to discuss the issues raised in front of the general public, and topics of narrower interest could be further discussed in separate rooms created within the Zoom system. Valuable contacts were made and new research ideas were generated. A small exhibition was also organised by the HNM Semmelweis Museum of Medical History for the occasion, as we had hoped until the last minute that the pandemic situation would change. However, it was only available to personal visitors.



During the conference it was possible to learn about new methods, we exchanged ideas and heard about research results and ongoing projects. A significant part of the presentations were given in English, the other part in Hungarian, but the papers included in the proceedings are all in English. The first part of the proceedings, as a result of the presentations and discussions, is published in this volume; the other part can be read in the next volume of the Aegyptus et Pannonia series.

Although not all the presentations are published, most of the aspects we covered are included in the volumes. The programme covered a wider range of topics: We were able to learn about plant finds from recent Egyptian archaeological excavations, the identification and use of plants in textual sources, religious connotations, and even the possibility of reconstructing perfumes. We could also look at the trade in plants between the Hittite Empire and Egypt, and learn which plants were used by the Copts in the Middle Ages. The latest research on Roman herbaria was discussed, and hitherto unknown ancient Egyptian texts were presented. Other presentations were devoted to the reproduction of some medicines based on ancient recipes. In one of the lectures we saw on video the process of preparation and examination of an ancient Egyptian medicine. Several papers dealt with temporal and spatial changes in the everyday and liturgical use and interpretation of a given plant, e.g. pomegranate in Greece. In India, Soma. In Hungary, thorn apple. In Estonia, pelargonium. In Finland and the Arctic, roseroot. And in the Arabian desert of Egypt, the apple of Sodom. The role of plants in religious ceremonies and concepts was also discussed, as well as the variety and significance of the scent they produce.

The lectures presented a wide range of the application of herbs in ancient and medieval medical methodology, with the help of Egyptian, Greek, Anatolian, and Hungarian herbariums. The conference participants were the first to hear that many ancient Egyptian medicines can still be found in the medieval Welsh medicinal knowledge. We also learned that a significant part of Dioscorides' usage of herbs could also be observed in Anatolian folk medicine. Lectures were given on the wide range of magical effects attributed to plants, spanning from antiquity to the Renaissance, in terms of iatromagic, iatromathematics, and iatromythology.

In separate sections, the participants were introduced to Hungarian ethnobotanical research, where, in addition to the methods of the way of collecting ethnobotanical data throughout Transylvania, the lecturers presented both the botanical aspects and the therapeutic potential of the plants included in the various Hungarian medicinal herbariums and pharmacopeias. In addition to the knowledge of plants preserved in the Hungarian witch-trial documents of the 15th to 19th centuries, the possibilities of historical and folk use against various diseases – such as tuberculosis and cholera – were also presented, and in connection with diabetes and surgery we also visited India and China. We got again an idea of how wound care has changed over the centuries, how plants have influenced the toolkit of surgeons, and which plants are still used in modern wound management. In connection with the Székesfehérvár Pharmacy Museum, an overview of the museum's extensive educational activities was presented in addition to its history. We have got acquainted also with the the most important medical tariff book of Hungary in the 18th century and the drawer labels of five apothecary furniture of the same period.

The approach to the flora of ancient Egypt is also diverse, and the study of the Ancient Near Eastern relations encompasses several scientific fields, such as Assyriology, Hittiteology and Biblical studies. The classical Greco-Roman world is also included in the next volume to facilitate comparison. In addition to history, interdisciplinarity also extends to other branches of the humanities, such as – among others – archaeology, history, linguistics, ethnography, philology, the history of religion and magic or iatromathematics.

In recent decades, the development of the sciences has moved in the direction of interdisciplinary cooperation, not only between related sciences, but also between seemingly distant branches of science. In addition to textual and material sources, the results and methods of the natural sciences are of fundamental importance for a more precise understanding of the past. The role of analyses and investigation of the various materials is thus becoming increasingly important, complementing traditional descriptive studies. As we also wanted to play a role in this process, several areas of natural science, such as archaeobotany, phylogenetics, types of data investigation and plant breeding, or various facets of medicine and medical history are also represented in the proceedings.

In this volume, we publish 11 studies that approach the world of plants from different perspectives within the broad framework of the conference. The focus is on ancient Egypt, but the articles also look at other areas. In addition to the data found in the articles and the results obtained, the methodological and theoretical approaches raise many new ideas, give exciting results and draw attention to various possibilities. For example, the multifaceted role of medicinal plants in the museum world or their application from the perspective of medical history and ethnomedicine.

With this volume, we hope to arouse interest in the unique world of the past, especially Egypt, to bring closer the world of nature and its possible effects on human life, and to encourage the birth of further results that will make the ancient Egyptian world better known and our own world better understood.

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THE “LEGEND OF THE LADY OF THE LAKE”: DID A CONNECTION EXIST BETWEEN MEDICINE AND PHARMACY IN ANCIENT EGYPT AND MEDIEVAL WALES?

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ABSTRACT

The “Legend of the Lady of the Lake”, one of the most popular and important medieval Welsh legends, occurs in many collections of Welsh literature. The legend relates how an “otherworld” woman emerged from a lake and met a young man from a local family whom she married. Eventually, following a dispute with her husband, she returned to the lake but came back periodically to meet her three sons to teach them about the medical properties of plants and herbs that grew in the neighbourhood.

Welsh literary sources from the 14th century AD onwards mention specific locations for these events – a beautiful lake (Llyn y Fan Fach) and the surrounding farming district of Myddfai, situated in what is still a very remote area of central Wales in the United Kingdom. Aside from the legend, it is noteworthy that a household-dynasty of herbal medical specialists – the “Physicians of Myddfai” – practised for generations in later medieval and early modern Wales. Several descendants of the same family continue in this profession even today.

This legend does not occur in isolation, however; versions, some entitled the “Fairy Bride”, are known throughout northern and western Europe. The Welsh texts provide details of over 200 treatments for a variety of medical conditions which, according to the legend, were transmitted by the Lady to her sons. These include rules for hygiene, uroscopy, craniotomy, children’s diseases, and a long list of plant and animal pharmaceutical remedies. Parallels have been identified with Latin and European sources.

There has been speculation that some aspects of this Welsh medieval tradition may in fact reflect concepts found in ancient Egyptian and Classical medical practices: this paper will consider whether any such links can be identified.

KEYWORDS: Ancient Egypt, Medieval Wales, ancient pharmacy, history of medicine

INTRODUCTION

Wales, one of the four countries that now comprise the United Kingdom (Britain), has a rich tradition as a Centre of early medicine and pharmacy. Medical manuscripts written in the Welsh language date from c. 1400 AD and include glossaries, recipes and health advice. They belong to a scholastic rather than a folkloric tradition, and probably reflect a medical system that was practised in Britain from the 12th century AD.

Earlier studies have demonstrated that Welsh medieval medicine was largely derived from European traditions which themselves owed much to Classical medicine as preserved and transmitted in Greek, Latin and Arabic manuscripts. In parallel to this, a research project at the University of Manchester (United Kingdom) has been able to demonstrate that there was a continuum in medicine and pharmacy from ancient Egypt through to Greek and Roman traditions.

This paper discusses a pilot study undertaken by the author to examine if there is any evidence that these two strands of transmission overlapped, and if any pharmaceutical concepts or practices did indeed pass from ancient Egypt, via Classical sources, to medieval Wales.

THE “PHYSICIANS OF MYDDFAI”: THE TEXTUAL TRADITIONS

Today Myddfai is a small village situated in a farming community in the county of Carmarthenshire in south-west Wales. However, there is ample evidence that, in medieval times, it was a famous centre of medical and pharmaceutical treatments, renowned for its local medical practitioners, the “Physicians of Myddfai”.

About five miles to the south of Myddfai, there is a lake (Llyn y Fan Fach) encircled by mountains with a rich flora of ferns, bog plants, lichens, bulbs and flowers. According to tradition, this was the main source of local plants which the physicians collected in order to produce their pharmaceutical remedies. The nearby sea-port of Tenby on the coast of south-west Wales would have provided a readily accessible entry point for other medicinal plants imported from the Middle East, India and Orient.



Figure 1. Map of Carmarthenshire, Wales, United Kingdom. (Source: https://commons.wikimedia.org/wiki/File:Carmarthenshire_UK_location_map.svg)

THE HISTORICAL CONTEXT

References to the “Physicians of Myddfai” occur in both historical and mythological literature. The earliest four medieval works written in Welsh, which date to the 14th century AD, have recently been edited and translated.¹ They discuss various medical concepts and practises which include hygiene, prognosis and diagnosis; treatment by means of drugs, diet or surgery; uroscopy² and craniotomy; lithotomy (the removal of stones from the body); the association between medical treatment and astrology; and the use of drugs containing ingredients derived from plants or animals.

Before undertaking this study, Diana Luft considered that these works probably represented a source of general knowledge intended for audience entertainment. However, having carefully analysed the texts, she has concluded that they had a practical, medical application, and were closely aligned with contemporary medieval European medicine. Although some remedies are based on magical concepts, the majority are practical treatments: there are a number of simple remedies for common problems, and an impressive overall number that might still be considered therapeutically viable even today. This study has also made Luft aware of the continuity in the way that herbal ingredients were conceived across a large geographical area and across many centuries (pers. comm.).

THE LEGEND OF THE LADY OF THE LAKE

Several medieval Welsh manuscripts contain references to remedies and medical theories associated with the Physicians of Myddfai. The most important of these is *Llyfr Coch Hergest* (The Red Book of Hergest), a large vellum manuscript that dates from 1382-1410 AD (Oxford Jesus College MSS. 111: 2007). One of the most important medieval manuscripts written in the Welsh language, this incorporates texts in prose and poetry, including the “*Mabinogion*”, a collection of pre-Christian Celtic folk-tales that are amongst the oldest in Europe.

The “Physicians of Myddfai” also feature in the famous “Legend of the



Figure 2. Llyn y Fan Fach, featured in the “Legend of the Lady of the Lake.” (Source: [https://commons.wikimedia.org/wiki/File:Llyn_y_Fan_Fach_\(1323880330\).jpg](https://commons.wikimedia.org/wiki/File:Llyn_y_Fan_Fach_(1323880330).jpg))

1 LUFT 2020.

2 LUFT 2011.

Lady of the Lake” which was probably an oral tradition handed down over the centuries. The earliest modern version is the account given by Richard Fenton (1747-1821) in his *Tours of Wales 1794-1813*.³

The legend relates how, while tending his sheep, a young shepherd encountered a beautiful woman rising from the waters of the lake (Llyn y Fan Fach) near Myddfai.⁴ She subsequently descended into the depths of the lake, but then returned with her father who consented to her marriage to the young man and provided her with a dowry of sheep, cattle, goats, pigs and horses. However, a condition of the marriage was that she must not be struck more than three times without due cause, or she would desert her mortal husband and return to the lake.

The shepherd and his wife set up home on a nearby farm and eventually had three sons. However, on three different occasions, the husband tapped his wife on the shoulder (the circumstances are described in detail in the legend), causing the woman to return to the depths of the lake, accompanied by her dowry of animals.

However, from time to time, she returned to the world of mortals to meet her sons, and pass on to them her special and profound knowledge of the medicinal properties of local plants and herbs. The sons in turn were able to use these healing benefits to treat others; thus, they became known as the “Physicians of Myddfai”, and eventually handed on these special skills to their own descendants.

A key theme of this legend is the ability of an individual from another world to hand over to mortals some specific knowledge about healing remedies that will generally benefit mankind.⁵ Although this tale refers specifically to the area around Myddfai, similar versions widespread across northern and western Europe are based on the same theme.⁶

THE DESCENDANTS OF THE “PHYSICIANS OF MYDDFAI”: A CONTINUING TRADITION

The “Physicians of Myddfai” did not only exist in legendary sources: early records state that this family of healers was descended from Rhiwallon, physician to a great Welsh leader, Rhys Gryg, Lord of Dinefwr, in the 13th century AD.⁷ These successful, highly regarded doctors probably derived their expertise from several sources: they would have acquired herbal knowledge from studying copies of Classical/Arabic medical texts; engaged with popular

3 FENTON 1917.

4 WILLIAMS – PUGHE 1978.

5 DAVIES, S. 2018.

6 WOOD 1992.

7 OWEN 2018, 19-21; STEPHENSON 2018.

local oral traditions and folklore; and utilised their own discoveries and therapeutic treatments.⁸

David Jones (c. 1717 AD) and his son John Jones (d. 1739 AD), who were the last members of this family to practise as physicians in the Myddfai area, are buried locally in St. Michael’s Church. Some of the farms associated with the family are still in existence today, and the medical tradition still continues with some of the current descendants now practising medicine elsewhere.⁹



Figure 3. St. Michael’s Church, Myddfai. Burial place of descendants of the “Physicians of Myddfai.” (Philip Halling Å, source: https://commons.wikimedia.org/wiki/File:Myddfai_church.jpg)

THE CONNECTIONS BETWEEN WELSH MEDICINE AND THE CLASSICAL/ARABIC TRADITIONS

Welsh medieval medicine is closely interwoven with both Classical and contemporary early European traditions. Some direct parallels exist between Welsh texts and Classical/Arabic sources: for example, the Welsh texts contain sections from the *Secreta Secretorum*, a series of letters allegedly

8 OWEN 1995.

9 TURNER 2018, 30.

written by Aristotle to Alexander the Great.¹⁰ Also, medical prescriptions in the Welsh texts include recipes ultimately derived from Greek sources, including Hippocrates¹¹ (460-355 BC) and Galen¹² (129-216 AD). There are hundreds of instances where Welsh recipes follow the same formulaic pattern as the Classical versions, detailing the rubric, indication, composition, preparation, uses and effectiveness of the treatment.¹³

Welsh medicine was also part of the wider early European tradition, itself largely derived from Greek, Roman and Arabic sources. European medieval literature included herbals which contained names and descriptions of plants, and gave details of their properties and medical uses. European botanists used a nomenclature for plants that was inherited from Classical sources, and authors preserved the tradition, taken from the Greek writer Theophrastos,¹⁴ of keeping records (Glossaries) of these plant names. Theophrastos' work was continued by another Greek, Dioscorides,¹⁵ whose compilations contained elements taken from earlier Egyptian medical sources.¹⁶



The Welsh sources describe a wide range of clinical conditions, ranging from simple to serious, for which they recommend a broad spectrum of drugs. These include vegetable and animal ingredients, ninety-five of which occur elsewhere in earlier or later herbals.¹⁷ Single plants are the basis of some treatments, although many use a combination of herbal ingredients.

Figure 4. Image of Dioscorides, Greek author and physician. (Source: <https://commons.wikimedia.org/wiki/File:Dioscorides01.jpg>)

10 TURNER 2018, 23-24.

11 LLOYD 1978.

12 GALEN 1991.

13 TURNER 2018, 24.

14 THEOPHRASTOS 1990.

15 DIOSCORIDES 2000.

16 TURNER 2018,24.

17 TURNER 2018, 31.

THE "PHARMACY IN ANCIENT EGYPT PROJECT" AT THE UNIVERSITY OF MANCHESTER

AIMS AND OBJECTIVES OF THE PROJECT

This innovative, multidisciplinary project was carried out at the KNH Centre for Biomedical Egyptology at the University of Manchester from 2005 to 2009.¹⁸ The KNH Centre for Biomedical Egyptology is a specialist facility in the Faculty of Biology, Medicine and Health at the University of Manchester. The Centre has developed an interdisciplinary approach which combines historical and scientific methodologies, in order to undertake innovative research relating to disease, medicine, lifestyle and mummification techniques in ancient Egypt.

For this project, the multidisciplinary methodology originally developed at the KNH Centre to examine human remains was now extended to investigate evidence relating to ancient Egyptian pharmacy. There were several aims: first, to examine evidence provided by ancient botanical specimens, in order to identify which plants had a pharmaceutical application in ancient times; secondly, based on this initial investigation, to confirm or revise existing translations of pharmaceutical prescriptions in the Medical Papyri; thirdly, to determine the accuracy and therapeutic efficacy of the treatments; and finally, to use immunological and aDNA techniques to identify any traces of pharmaceutical ingredients in the mummies.¹⁹

Various resources were available for this project. Researchers had access to relevant ancient and modern plants in collections in Egypt and the United Kingdom, and also to the International Ancient Egyptian Mummy Tissue Bank at the University of Manchester for samples of mummified tissue.²⁰ In addition, there was collaboration with the Medicinal Plant Conservation Project at St Katherine's in Sinai (Egypt), established in 2002 to study methods of protecting the biodiversity of flora in the region. Knowledge provided by local Bedouin healers also contributed to the identification of medicinally useful plants.

This co-operation made it possible to assess the similarities and differences between modern traditional medicine and ancient therapies, and to identify any continuous pharmaceutical tradition from ancient to modern times.

THE PILOT STUDY

A pilot study was undertaken to compare the pharmaceutical ingredients listed in the Kahun, Edwin Smith, Ebers and Chester Beatty Medical Papyri, with modern, twentieth century treatments. As the papyri provide all the necessary information (ingredients, method of preparation and

18 DAVID 2010.

19 METCALFE 2010.

20 LAMBERT-ZAZULAK 2000.

dosage), the ancient remedies could be reproduced. The results demonstrated that the majority of treatments did not, as previously supposed, rely on the placebo effect. Martindale's Extra Pharmacopoeia (written when drugs were still prepared in dispensary) contains 64% of the ingredients named in the Egyptian papyri: namely, this percentage of Egyptian prescriptions had a therapeutic value on a par with drugs used in the last fifty years. Additionally, when the ancient remedies were prepared, it was discovered that 67% complied with the standards and protocols for major medicines given in the British Pharmaceutical Codex (B.P.C. 1911).²¹

CONTINUING RESEARCH

The pilot scheme provided the basis for continuing research on the Medical Papyri: a thousand prescriptions dating c. 1850 – c. 1200 BC were analysed and compared with modern standards and protocols.²² Since the flora of ancient Egypt is well-documented in geological and archaeological sources, it was possible to confirm if a plant named in a prescription grew or was traded in Egypt at the time when the papyrus was written. Eventually, a plausible identification was produced of 284 medicinal ingredients from 134 plant species, 24 animals, and 28 minerals.²³

SOME KEY RESULTS

The study demonstrated that the majority of ancient Egyptian remedies were reproducible and therapeutically viable: although they often did not understand the cause of an affliction, the physicians concentrated on treating the symptoms, and were able to prescribe the appropriate drug, dose and administrative method required to treat these conditions. The project also identified major trade routes by which some of the medicinal ingredients had reached Egypt.²⁴ In the wider context, convincing evidence was produced that the Egyptians had a viable pharmaceutical tradition 1,800 years before the Greeks, confirming that Egypt, not Greece, was the original source of many aspects of early European or “Western” medicine and pharmacy.

POSSIBLE CONNECTIONS BETWEEN ANCIENT EGYPTIAN AND MEDIEVAL WELSH MEDICAL AND PHARMACEUTICAL TRADITIONS

Some clear similarities appear to have existed between the medical traditions of ancient Egypt and medieval Wales. For example, both systems were based on a good scientific knowledge of human anatomy; in both

21 CAMPBELL 2008.

22 CAMPBELL – CAMPBELL – DAVID 2010.

23 CAMPBELL – DAVID 2010.

24 SEATH-BURROWS 2010.

instances, the practising physicians were also investigative practitioners, able to use knowledge they had gained from personal observation and experience.

The two systems adopted some similar techniques and remedies. For example, they both employed uroscopy,²⁵ which relies on the colour, translucence and smell of a patient's urine to identify the presence of particular diseases. In addition, there was widespread use of drug treatments; these included plant, animal and dairy ingredients, sometimes combining multiple ingredients in a single pharmaceutical remedy. Both systems provided treatment in the form of external and internal applications, which included infusions, pills, and inhalations where the active herbal principle was extracted with solvents such as water, beer, wine and milk. The therapeutic efficacy of some ingredients is demonstrated by their continued inclusion in modern pharmacopeia. However, both ancient Egyptian and Welsh traditions continued to use amulets as healing aids in magico-religious or placebo treatments; these were retained alongside more pragmatic measures.

Greek medicine is probably the original route through which some ancient Egyptian concepts reached Wales. However, the line of inheritance was evidently not always direct, and there are some notable differences in these systems. For example, neither Egyptian nor Welsh medicine includes the practice of "bleeding" the patient to remove the cause of an affliction, although this method was widely used in Greek medicine.²⁶

In one important respect, the principles underlying ancient Egyptian and Welsh medicine are quite distinct. Welsh medieval medicine inherited as its scientific basis the humoral theory attributed to Galen. This concept provided an explanation of how disease occurred in humans, and indicated which methods of treatment should be offered. However, although it continued to dominate Greek, Roman and later medical systems, there is no evidence it existed in ancient Egyptian medicine, which was established long before Galen's time.

CONCLUSION

Welsh medieval medicine had clear associations with Classical, Arab and early European systems, and was based on many (although not all) of the same concepts and principles that had ultimately been derived from Greek practices.

The "Pharmacy in Ancient Egypt Project" at the University of Manchester has demonstrated that Egypt had viable medical and pharmaceutical traditions that predated the development of Hippocratic medicine by some 1,800 years. The project also confirmed that Egypt was probably the main source for many

25 LUFT 2018.

26 DAVIES, D. 2018, 184.

of the major medical concepts observed later in Classical, Arabic and early European medicine.²⁷

It can reasonably be concluded, therefore, that although dissimilarities existed between these medical systems, it is likely that transmission of important areas of knowledge and expertise were transmitted from ancient Egypt to medieval Wales, via Greek medicine.

Evidence to date indicates that it would be worthwhile to continue and extend this study to undertake a more detailed comparison of ancient Egyptian and medieval Welsh medicine and pharmacy.

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27 DAVID – FORSHAW 2023.

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1830 1149

These plants has been cultivated in Hort. Bot. in
Copenhagen from seeds received from Paris in 1803.
To Paris came these seeds from Egypt with the label:
"Bupleurium d' Egypte Nectoux O. P. sur Ch."
O. Lagreëus.



Bupleurium d' Egypte
Nectoux O. P. sur Ch.
Original collection
1803

ОБРАЗЦА ДЛЯ ФЛОРИ СССР
Bupleurum lancifolium Hornem.
Typus!
1949. Teste I. Lincevski

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LECTOTYPE
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Lectotype of
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