

Introduction

**Julien Auber de Lapierre, Gersande Eschenbrenner Diemer
and Valérie Schram**

The two-day conference “NetWood: Wood Networks in Egypt from Antiquity to Islamic Times” was organised in June 2021 in response to a shared awareness of the relative scarcity of interdisciplinary projects and publications devoted to wood as a material and to its use in Ancient Egypt over the long term. The aim was to bring together, across all disciplines and all periods, a new impetus for studies and research reflecting a growing awareness of the significance of this material in Ancient Egypt. Despite the fortunate environmental conditions which often enable the remarkable preservation of wood in Egypt, the study of this material has – compared to other subjects – long been relegated to the background, no doubt partly due to the misconception that the country suffered from a chronic shortage of wood, and probably also to the disciplinary compartmentalisation and the hyper-technicality of the analytical tools used by each discipline, which, still too often, can hinder the exchanges vital to resolving aporias and broadening views.

The early pioneers of Egyptian botany had understood this very well, and the Swedish botanist Vivi Täckholm explained how much of a tribute she and her late botanist husband, Gunnar Täckholm, owed to the “universal spirit” that inspired their predecessors, namely the Swedish Pehr Forsskål who produced the first scientific flora of (Lower) Egypt in his *Flora Aegyptiaco-Arabica* (1775), the French Alire Raffeneau-Delile and his magnificently illustrated *Flore d'Égypte* (1812) and the Baltic German Georg Schweinfurth with his *Illustration de la flore d'Égypte* prepared with Paul Ascherson (1887). According to Vivi Täckholm, “Egypt has what no other country possesses, a tomb flora. In this country every plant has a history. Owing to the dry and hot climate, nothing gets destroyed in Egypt. All the fruits, vegetables and flowers which were put down in the tombs thousands of years ago [...] transmit to us an idea not only about the flora of ancient times but also about the cultural history of Egypt [...]. Thus an Egyptian flora should not follow any normal rules. It has to be written in the spirit of the country itself and has to include much more than is usually the case with similar works.”¹ When Gunnar Täckholm was called in 1925 by the Egyptian government to found the Botany Department of the Egyptian University (Fouad 1st University) and its Herbarium, the Täckholms soon developed the common ambition to not only create a modern and well-equipped institution for botanical studies – which quickly became one of the best in Africa and the Middle East – but also to fill “the pressing need of an Egyptian flora”. The monumental work they started together could not have

been done without the invaluable input of their Egyptian colleague, Mohammed Drar, then curator of the herbarium of the Horticultural Section of the Ministry of Agriculture – and particularly his knowledge and experience of Egyptian wild flora.² That is how the four encyclopaedic volumes of their *Flora of Egypt* (1941–1969) laid the groundwork for all subsequent research on Egyptian plants, including archaeobotany,³ as it provides an indispensable taxonomic reference for identifying ancient plant species, while Vivi Täckholm’s later *Student’s Flora of Egypt* (1974) would become the foundational manual for students and non-specialist researchers working on Egyptian plant identification and classification throughout the late twentieth century – not to mention also her *Faraos Blomster* published in 1951.

Several of Vivi Täckholm’s students at Fouad 1st University followed in this tradition. To name only two, Nabil El Hadidi became an iconic figure in Egyptian botany and was elected as a Keeper of the Cairo Herbarium, replacing Vivi Täckholm in this position after her death in 1978, and until his own death, 25 years later.⁴ His archaeobotany laboratory, established in 1976 at the Cairo Herbarium – now named the “M. N. El Hadidi Lab and Library” – testifies to his deep commitment to analysing ancient plant remains. His contributions span a wide spectrum, from adventitious flora to chemosystematic studies, including the description of new species and the development of pollen atlases – all essential for identifying macro- and micro-plant remains in archaeobotany.⁵ As for Loutfy Boulos, another of Vivi Täckholm’s students, he would finally produce the *Flora of Egypt* (1999–2005), and thus offer a comprehensive scientific Egyptian flora of reference. More recently, and among many others, one can mention Nahed Waly, Professor of Botany, Plant Taxonomy and Anatomy at Cairo University for her dynamic archaeobotanical production,⁶ or Rim Hamdy, Professor of Plant Taxonomy and Flora at Cairo University, who stands out for her multidisciplinary approach to Egyptian botany. Her research spans from the study of historical gardens to archaeobotany and palynology.⁷ Finally, the pioneering research conducted at Cairo University Herbarium paved the way for subsequent work on wood studies by Egyptian researchers at the Conservation Department, Faculty of Archaeology, which was opened in 1978 and

² V. Täckholm, in Täckholm, Täckholm & Drar 1941, 8–9.

³ See Greiss 1948 and 1957.

⁴ Aboel-Atta & Loutfy 2004.

⁵ See the long list of publications gathered in Aboel-Atta & Loutfy 2004.

⁶ See for instance her early work in Waly 1995, 1996, 1999, 2003.

⁷ See for instance Hamdy et al. 2007; Hamdy 2010; Atallah et al. 2022; Khamis & Hamdy 2023.

¹ V. Täckholm, in Täckholm, Täckholm & Drar 1941, 4–5.

has been especially dynamic in the field of treatment and conservation of archaeological wood, as demonstrated by Nesrin El Hadidi in 2015 and the long list of master theses, dissertations and publications she presents.⁸

This continuous work on Egyptian flora was naturally to be completed by the parallel production of international Egyptologists, following the early lead of Victor Loret and his *Flore pharaonique* (1887). Among them, Louis (Ludwig) Keimer was certainly the most original, curious and prolific about Egyptian flora and fauna. Profoundly inspired by his mentor Schweinfurth, he left a quantity of publications successfully bridging the gap between Egyptology and natural sciences and, already in 1924, an unachieved *Die Gartenpflanzen im Alten Ägypten, I*, of which Renate Germer would later edit the second volume (1984), before completing her own *Flora of Pharaonic Egypt* (1985). One also must mention Nathalie Baum's important work on the Theban garden of Ineni, architect to Thutmosis I (1988), whereas the *Ancient Egyptian Materials and Technology* volume, co-edited by Paul T. Nicholson and Ian Shaw (2000), includes a chapter on trees and wood in Ancient Egypt jointly authored by Rowena Gale, Peter Gasson and Nigel Hepper (botany) and Geoffrey Killen (technology). Bringing together the contributions of texts and material studies, the latter has become a major reference work in the field of Egyptology – as has Alfred Lucas's *Ancient Egyptian Materials and Industries*, first published in 1926 and then regularly republished until its revision by John Richard Harris in 1962. Nevertheless, there was (is) still a need for more identifications at species level, as pointed out by Nili Liphshitz while she was studying Egyptian woods kept in Israeli collections in 1998. She pointed out that xylogenetic analyses of Egyptian wood were still rare outside the large collections from famous royal tombs, and that these analyses had often been too imprecise – for example, including cedars, pines, cypresses, firs from the Levant and junipers from the Sinai under the name “conifer”⁹ – while highlighting the predominance of local woods in the various objects she analysed (acacia, sycamore and tamarisk). As for now, the relatively recent expansion of archaeobotanical, xylogenetic and anthracological studies in Egypt is opening up new prospects for research and new techniques for studying ancient flora have made it possible not only to drastically increase the number of identifications of plant remains but also to refine identifications.¹⁰ As a matter of fact, it was against this backdrop that Christian de Vartavan and Victoria Asensi Amorós embarked on their long-term project to produce an updated flora of Ancient Egypt based primarily on archaeobotanical analyses – deliberately leaving aside the often ambiguous lexicographical and iconographic data. In 1997, the first edition of the *Codex of Ancient Egyptian Plant Remains* provided botanists, archaeologists and

Egyptologists with the initial results of their compilation of archaeobotanical reports, which would be completed ten years later in a new, completed edition.¹¹ Taken with the new *Flora of Egypt* by Loutfy Boulou (1999–2005), these two publications provide a large overview of the species present in Egypt, both local and introduced/imported, over the long term. Since then, following the impetus provided by the state-of-the-art xylogenetic report and methodological roadmap developed by V. Asensi Amorós in 2003, more and more analyses have been carried out on Egyptian archaeological sites, demonstrating a renewed interest in the material in all its forms.¹²

While it is beyond the scope of this Introduction to list them all, we would like to focus in particular on two recent major archaeological discoveries in the field of ancient shipbuilding. Firstly, the discovery by Pierre Tallet's team (Ifao) of the remains of sea-going craft in the galley-magazines at the Pharaonic ports of Ayn Sukhna and Ouadi el-Jarf, craft designed in the Valley, in Memphis and Coptos, and then assembled at a later stage on the seashore. At Ayn Soukhna, analyses of charred wood remains have shown that imported wood (cedar) was used for the structural elements and local wood (acacia) for the tenons,¹³ while at Ouadi el-Jarf, initial analyses have revealed not only cedar and pine, which would be expected in shipbuilding, but also chestnut wood, suggesting more complex exchanges than with the Levantine area alone. The presence of unworked ebony would confirm the use of these ports as departure points for maritime expeditions to Punt.¹⁴ The study of the wood discovered at Ouadi el-Jarf was jointly resumed in 2025 by Gersande Eschenbrenner Diemer and Claire Newton. Their research focused more specifically on the precise identification of *Diospyros* sp. pieces in order to determine their species using various parameters (anatomy, colorimetry, density analysis) and their uses.¹⁵ Secondly, shipwreck 17 at Thônis-Herakleion, unearthed by Franck Goddio's team (Institut Européen d'Archéologie Sous-marine), provided exceptional archaeological confirmation of Herodotus' contemporary observations that local acacia (in this case *Acacia nilotica* and *Acacia raddiana*),¹⁶ a dense, water-resistant wood, was used for the structural parts of the *baris* – a Nilotic cargo boat almost 28 m long and 8 m wide, with a capacity of 112 tonnes.¹⁷ These two projects seem to reflect the functional distribution of woods suggested by Patrice Pomey: local species for boats built on private sites (acacia, sycamore, tamarisk) for everyday use, and imported wood for seagoing vessels, funerary boats and royal boats from sites

¹¹ Vartavan, Arakelyan & Asensi Amorós 2010 (1st ed., 1997).

¹² Asensi Amorós 2003, shortly following her dissertation on the subject (Asensi Amorós 2000). For the current state of archaeobotanical research in Egypt, see Malleson 2020.

¹³ Pomey 2012: 43–44.

¹⁴ Somaglino & Tallet 2022 and Tallet 2020, § 18, based on analyses by Claire Newton.

¹⁵ Eschenbrenner Diemer & Newton, in preparation.

¹⁶ Although scientific names of plants in this volume omit author citations, full names with authors are available in the Appendix, along with English and French vernacular names.

¹⁷ Belov 2014, 2019, and 2021.

⁸ El Hadidi 2015: 151. Notably on the Cheops boat, Nour et al. 1960; Lipke 1984; Hadidi 2005.

⁹ On the subject of conifers imported into Egypt, see Bardinet 2008.

¹⁰ On this subject, see in particular the contribution by G. Eschenbrenner Diemer in this volume.

administered by the State.¹⁸ Nevertheless, the identification of marine timbers from the site of Mersa / Ouadi Gawasis, on the Red Sea (Istituto Universitario Orientale di Napoli), has indicated that acacia and sycamore were also used for certain types of planking, in addition to cedar, suggesting that the functional distribution of species, obviously dependent on the availability of wood, could be more complex, particularly if we consider the potential impact of reuse in the field.¹⁹

Therefore, whether considering the demand for luxury goods involving the importation of precious wood species or “everyday” needs that put even greater pressure on Egyptian wood resources, it is all the more crucial to take advantage of this new convergence of interests to compare the latest research findings: the data available and the contextualising evidence has never been so abundant, and the perspectives opened up by each approach are as varied as they are complementary – allowing, for instance, for formerly possible identifications of wood to be dismissed, such as was the case with the “shea” which should now be reattributed to perseae (*Mimusops laurifolia*).²⁰ Nevertheless, if the diverse disciplines involved are to be able to move forward and work together, it is worth stressing the particular significance of issues surrounding terminology: whether the aim is to contribute to the reconstruction of the natural environment, to study management or agroforestry practices, to identify workshop techniques or to establish trade routes, the way in which a species is named plays a key role in the construction of common knowledge. Such is the case with the frequently incautious designation of “cedar” when in fact referring to an indeterminate genus of conifer – or even “cedar of Lebanon” when other species and other origins are conceivable – or “ebony”, a term that should be reserved for woods anatomically identified as belonging to the Ebenaceae family (*Diospyros* spp.) but is often commonly used to designate various black woods appreciated in Egyptian craftwork. It should be remembered that this ambiguous vernacular name covers not only Ebenaceae, some genera of which are native to India (e.g. the so-called true ebony, *Diospyros ebenum*) and others to Central Africa (including *Diospyros crassiflora* or *Diospyros mespiliformis* found in Sudan), but also African grenadilla (*Dalbergia melanoxydon*), each potentially involving different contacts and trade networks. In order to help harmonise usage between different periods and disciplines and to limit the ambiguity of vernacular designations, a list of genera and species discussed or referred to in the contributions to this volume is presented in the Appendix:

some synonyms (old or very recent) are listed,²¹ along with suggestions for translations into English and French. We can only hope that researchers from the many disciplines likely to be interested in wood – Egyptology, papyrology, Coptic and Arabic studies, as well as archaeology and geoarchaeology, architecture and art history, among others – will be attentive to the terminology when applying their approach to the exploration of the various issues linked to the exploitation of wood.

Among these issues, the question of the relationship between the exploitation of local wood and imported foreign wood remains a particularly promising area for study, given that the importance of wood in Egyptian construction and the availability of Egyptian species are probably still underestimated. The presence of ancient forest stands in the Nile Valley – although difficult to quantify and characterise – has long been suggested by various studies.²² It is around these questions that four contributions have been collated in the first part of the volume, entitled “Resources and Supply for Building Activities: Materialising Needs”.

As work in environmental archaeology develops, it is leading us to reconsider the reality of ancient landscapes that may have been greener than is generally thought. This is how Judith Bunbury presents the case of the Theban Mountain, where geo-archaeology combined with the study of the remains of human activity has led her to reconstruct a landscape in which, thanks to warmer and wetter climatic episodes in the New Kingdom, the presence of water would have encouraged the growth of vegetation more reminiscent of the local forests of the early Holocene than the arid landscape of today: “Small wonder that kings chose to be buried in this sought-after but heavenly habitat”, she notes. As for Françoise Laroche-Traunecker and Claude Traunecker, they have taken up the controversial issue of the wooden roofing of the Taharqa kiosk in the first courtyard of Karnak, as part of an effort to reaffirm the place of wood in the architectural landscape of the same region, and with it the issues surrounding the supply of casks estimated to be 15 m long, probably from the Levant. This contribution is the first to offer a pictorial reconstruction of the building with a wooden roof, commending the spirit of innovation and architectural daring behind the challenge of installing these timbers on tall, slender columns with a remarkable span width.

Valérie Schram and Jean-Charles Ducène have undertaken a review of the availability of wood resources over the long term from their respective sources (primarily textual) and study periods. Following on from her publication on the wood used in the Graeco-Roman and Byzantine periods based on Greek papyrological sources (2023), V. Schram

¹⁸ On this subject, see Pomey 2015: 12; see also El Hadidi 2015: 146.

¹⁹ Ward & Zazzaro 2010; on re-employment in shipbuilding, see Creasman 2013.

²⁰ As confirmed by V. Asensi Amorós at the NetWood conference. This is notably the case with objects from the Louvre, presented as “shea” wood in Rutschowskaya 1986 (with a hesitation between *Butyrospermum parkii* and *Mimusops schimperi* [= *M. laurifolia*], cf. p. 14) but whose identification has now been corrected in favour of “perséa” in the records of the online collection, such as the Byzantine panel E 11716 (cf. Rutschowskaya 1986, no. 368) and the Islamic panel E 30530 (cf. Rutschowskaya 1986, no. 518). See Schram 2023: 334–337 and n. 585.

²¹ It should be noted that the genus name of some *Acacia* species has recently been changed to *Vachellia*. To avoid adding to the confusion, we have chosen to retain the former name in this volume. The updated equivalents are provided in the list in the Appendix.

²² On the forests of Egypt, see e.g., Bahgat 1900; Yoyotte 1961; Vernus 1977; Gabolde 2002; Gerisch 2004 & 2010; Schram 2023.

is now focusing on the Fayyum region. Having identified a number of clues which, albeit indirectly, suggest that the region was a favoured production area for timber and charcoal, she here draws up a catalogue of this evidence in an attempt to pinpoint the source of the resources, which seem to have been harvested mainly in the marginal basins known as *drymoi*. Previously generally interpreted by papyrologists as marshes, these *drymoi* could be better understood as wetlands associated with forestry resources and charcoal production activities. Jean-Charles Ducène, for his part, offers a broad overview of the production and management of local Egyptian resources between the ninth and fifteenth centuries. While new species, the quality and scale of which are not always easy to determine, were added to the list of locally available species, it was above all the same tamarisk, acacia, sycamore and palm trees as in previous periods that were exploited, as shown by a case study focusing on the Fayum. The author notes that recourse to imports increased from the tenth century onwards, but also highlights that under the Fatimids, forestry policy was strengthened with the aim of conserving and monopolising wood from the state forests of Middle Egypt for use in arsenals. Subsequently, however, demand exceeded production capacity and this, coupled with state disinvestment, gradually led to the exhaustion of resources – by the fifteenth century, the “forests of Egypt” as known in the previous centuries were no more than a faint memory.

The next section of the book, entitled “Woodworkers and Workshops: Apprehending Pragmatic and Symbolic Choices, Identifying Styles and Networks”, brings together four contributions focusing on the study of traditional wood crafts and workshop operations. Proposing new approaches in this field of study – social, technological, or stylistic – they underline the fundamental role of multidisciplinary analyses for the precise identification of workshop practices and craft production.

Gersande Eschenbrenner Diemer opens this section with a contribution providing an overview of current projects focusing on wood in Egypt. While, for the past several decades, there have been a few initiatives devoted to the study and protection of wood craftsmanship in the Islamic period,²³ research into wood craftsmanship in Ancient Egypt has recently regained traction. This can be demonstrated by the *Medjehu project*,²⁴ which brings together under a single banner various research projects dedicated to the study and conservation of Egypt’s wood heritage. The ambitious project to create a Centre for the Study and Conservation of Egypt’s Wooden Heritage in Egypt is also presented, highlighting the numerous research

and training prospects that such a project can offer to the discipline. The second part of this article is devoted to the issues raised by research on wood in Egypt and highlights the need to give priority to the manufactured object – which bears all the traces of its history – as the “source of research”.²⁵ The results of this material and technological study, combined with a multidisciplinary analysis of texts and iconography, make it possible to identify workshop practices and the hands of craftsmen whose last testaments lie mainly in their products.

The following three articles focus on the identification of workshops and networks of wood craftsmen in the Pharaonic and Islamic periods. In the first article, using a multidisciplinary methodology, Anna Giulia de Marco takes a closer look at workshop practices within an official institution: the community of craftsmen in the village of Deir el-Medina who were responsible for building, decorating and equipping the royal tombs of the New Kingdom. By bringing together all the textual and material sources relating to the woodworkers discovered on this site, A. G. de Marco is redrawing a little-known artistic heritage and restoring the rightful place of these woodworkers, who had long been unfairly regarded as less important than other, better-studied trades. The question of workshop production is then examined by Lisa Sartini through the study of a very specific category of wooden coffins dating from the beginning of the New Kingdom: black coffins with yellow decoration. Again, adopting a multidisciplinary approach, Lisa Sartini offers a new chronological and typological classification of these coffins. Although discovered mainly in the Theban region, their area of use turns out to be much wider than expected, with examples found from the north to the south of Egypt, and even on Sudanese sites. Examination of these coffins, which combines the study of construction techniques and materials with iconographic and epigraphic analysis, provides us with new insights. As a result, a clearer picture is gradually emerging of the technical, artistic and social variations inherent in woodworking in Ancient Egypt.

Dina Ishak Bakhom’s contribution, which closes this section of the book, shifts and transposes the discussion of styles, taking the point of view of modernists in their efforts to rediscover a “primitive state” in ancient crafts. Adopting as a case study the elaborate minbars of Mamluk mosques, she traces more specifically the long history of the minbar of the mosque of al-Māridānī (740/1339 AD), abandoned in a “skeletal” state before being rediscovered and restored at the beginning of the twentieth century under the guidance of the *Comité de conservation des monuments de l’art arabe / Lajnat Ḥifẓ al-Āthār al-‘Arabiyya*. The author gathers and examines in minute detail the Comité’s reports, reflecting on questions of authenticity and hybridity, and anchoring these questions within the context of the most recent developments in conservation and restoration practices, as the story of the minbar’s dismemberment is repeated since it was once

²³ Of particular note is the Nadim Group, active in Egypt for 45 years, which strives to document and disseminate Islamic wooden heritage through the Nadim Foundation (<https://www.nadimfoundation.org/>).

²⁴ The “Medjehu project – Investigating woodcraft along the Nile”, directed by G. Eschenbrenner Diemer, brings together various institutional partners, the main ones being the University of Lisbon, the New Kingdom Research Foundation and the Ifao: <https://www.medjehuproject.com/>.

²⁵ Perrot, Pietri & Tanré-Szewczyk 2020.

again being vandalised at the beginning of the twenty-first century.

The final section of the book, entitled “Woodwork in Context: Precious and Common Woods for Sacred and Everyday Uses”, responds to the need to deepen our understanding of the place of wood in the daily life of Egyptian society, in particular by renewing the reference corpora, whether textual or material. It is in this context that Roberto A. Díaz Hernández proposes a lexicographical study of the wooden furniture mentioned in the administrative textual genre of temple inventories, attempting to identify and describe the objects precisely and thus to recognise and recontextualise the choice of species used in this production of ritual furniture – species that were both local (acacia, Christ’s thorn jujube) and imported (cedar and ebony). The following three contributions shed light on previously unpublished assemblages of furniture. Roberta Petrilli’s study and presentation of the Roman wood found in the *temenos* of the temple of Soknopaios as part of the Soknopaiou Nesos Project (dir. M. Capasso and P. Davoli, University of Salento), carried out between 2003 and 2021, offers a new facet to the still very incomplete picture of the common or sacred uses of wood in Fayum furniture, hitherto better known through the example of nearby Karanis. Aleksandra Pawlikowska-Gwiazda takes us to Upper Egypt, and more specifically to the monastery of Phoibammon (Deir el-Bahari). Although the monastery itself has disappeared, the excavations carried out by the Polish-Egyptian Archaeological and Conservation Expedition since the 1960s have brought to light elements of wooden architecture, decoration and furniture, which she has assembled and restored to their original monastic context, pointing out that the preliminary identifications of the wood suggest that it was harvested from wood available nearby (acacia, sycomore, tamarisk, willow). Finally, Julien Auber de Lapierre, who is in charge of the Cairo *Coptic Museum’s General Catalogue* of wooden objects,²⁶ presents a previously unpublished collection from the Byzantine period held at the Ifao. These wooden items, which include architectural elements and everyday objects, were the subject of xylological analyses as part of the ÉBÉNES project (Études des bois égyptiens: nature, emploi, sauvegarde) in 2020. Following archival research, some of the most remarkable pieces have been attributed to discoveries made at the Bawit monastic site in the early twentieth century, providing an unexpected addition to the material already scattered between Cairo, Paris, Berlin and New York.

In sum, without claiming to answer all the questions raised in the call for papers for the 2021 conference, the contributions here demonstrate an important initial effort to bring together the many sources and approaches to the study of wood over the long span of Egyptian history. It is

to be hoped that this will soon be surpassed by both new studies and new findings.

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²⁶ Auber de Lapierre & Jeudy 2018, which complements earlier publications by Rutschowskaya 1986 and Enß 2005 of wood collections in museums.

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