

The Medicinal Plants in Ahmed Pasha Kamal's Dictionary of Plants and Trees: Al-La'ali' Al-Durriya fi Al-Nabatat wa Al-Ashjar Al-Qadima Al-Misriyya A Glimpse into Ancient Egyptian

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Abstract

Ahmed Pasha Kamal was the first Egyptian scholar to write his own ancient Egyptian dictionary, *Le lexique de la langue Egyptienne ancienne* totaling 22 volumes, including more than 13,000 hieroglyphic entries translated to French and Arabic, yet following different methodology. Kamal's knowledge production was varied in languages and in targeting audience. He published in Arabic for the Egyptian people and in French (mainly) and English for westerners. Among his publications is "The Dictionary of the Ancient Plants and Trees" *اللائى الدرية فى النباتات والأشجار القديمة المصرية* Al-La'ali' Al-Durriya fi Al-Nabatat wa Al-Ashjar Al-Qadima Al-Misriyya, which is an encyclopedic work that is considered one of the most important references in the study of ancient Egyptian flora. Published in the late 19th century, this dictionary provides comprehensive information about plants used in ancient Egypt, including their names in hieroglyphics, along with translations into Arabic and French. The dictionary is organized alphabetically, it includes detailed descriptions of specific plants and trees, noting their physical characteristics and traditional uses. Moreover, it outlines how these plants were used in religious rituals, medicinal treatments, and daily life, such as growing grains, preparing oils, and crafting wood. In this research paper, we will present an overview of the medicinal remedies discussed by Kamal in his study of the uses of plants in the Dictionary of Plants and Trees, to be compared with the terms found in his 22 volumes dictionary.

Keywords

Ahmed Pasha Kamal;
Dictionary of Plants and Trees;
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1. Introduction

Ancient Egypt was familiar with the professions of medicine and pharmacy. Egypt was renowned for many physicians, the most notable of whom was Hesy-Ra, considered the oldest Egyptian doctor from the 3rd Dynasty, during the reign of King Djoser (Ghareeb, 2021, p. 2; Nunn 2002, p. 10). He has a prominent wooden relief from his mastaba at Saqqara, which is now housed in the Egyptian Museum. He held the titles of Royal Scribe, Chief Physician, and Chief Dentist (Nunn 2002, p. 124). The oldest pharmacy known in history is the Egyptian pharmacy, where the apothecary played a significant role in Pharaonic Egypt. They conducted research, performed experiments, and recorded observations. Egyptian temples sometimes included small laboratories used as storage areas, where physicians would prepare and compound medicines in designated spaces within the temples. In these locations, medicinal substances were stored in containers made of pottery and glass. Not only this, but people also traveled to healing centers in the Egyptian temples to receive medical care and treatment (Abouelata 2018, p. 121).

The medical papyri of ancient Egypt are invaluable historical documents that provide insight into the medical practices, beliefs, and treatments used in one of the world's earliest civilizations. Among these papyri are *Ebers Papyrus*, *Edwin Smith Papyrus*, *Harris Papyrus*, and *Kahun Gynecological Papyrus* (Nunn 2002, 24). They continue to be a rich source of information for historians, archaeologists, and medical researchers studying the history of medicine and healing practices. We also obtained our information about medicine and pharmacy in ancient Egypt from inscriptions, medical ostraca (Nunn 2002, 41), and images. Remarkably, these papyri and ostraca provide a precise depiction of diseases and the medicines described.

Ahmed Pasha Kamal had prepared a specialized dictionary of plants and trees, which includes detailed explanations of certain terms related to medicinal plant recipes.

It is worth noting that Woenig (1886) preceded Kamal in writing his dictionary; however, his work was not a traditional dictionary like Kamal's, but rather a classification study. Similarly, Groser (1888) published his work, focusing on plants mentioned in the Bible, many of which were sourced from Egypt.

Over time, numerous studies emerged, including the two volumes by Keimer (1924; 1984) and the work of Deines and Grapow (1959), which to some extent, followed Kamal's methodology. Additionally, Germer's (1985) study, as well as others, contributed further to the field.

2. Ahmed Pasha Kamal's Methodology in Writing the Dictionary of the Ancient Plants and Trees

Although the dictionary was published in 1306 AH, which corresponds approximately to 1889 AD, yet Kamal completed it, as recorded at the end of the book, on Thursday, the 9th of Dhu al-Qi'dah 1307 AH, corresponding to June 26, 1890 (Al-Sharqāwī 2010, p. 17).

It is worth noting that Ahmed Pasha Kamal gifted this book to the Director General of the Egyptian Museum, E. Grebaut, on "Giza, July 15, 1890", written in French by hand on the right-hand page opposite the book's table of contents. This particular copy of the book is

preserved in the library of the Egyptian Museum under the number BA.71, and was previously cataloged as BB.43.

The introduction of the dictionary was divided into two parts. The first part mentioned that the book was published during the reign of Khedive Muhammad Pasha Tewfik and was printed by the order of the Minister of Education, Ali Pasha Mubarak. The second part provided a general introduction to plants, including terrestrial and aquatic plants, flowers, their various uses, gardens and orchards, and finally, agriculture, its tools, and challenges. Several trees were mentioned, such as the sycamore, palm, pomegranate, apricot, fig, doum palm, olive, and vine. Among the plants, it listed wheat, barley, sesame, lupine, fava beans, lentils, garlic, and onions. As for aquatic plants, it mentioned papyrus and lotus, and among the flowers, roses were highlighted (Al-Sharqāwī 2010, pp.17-18; Kamāl 1894, pp. 5-14).

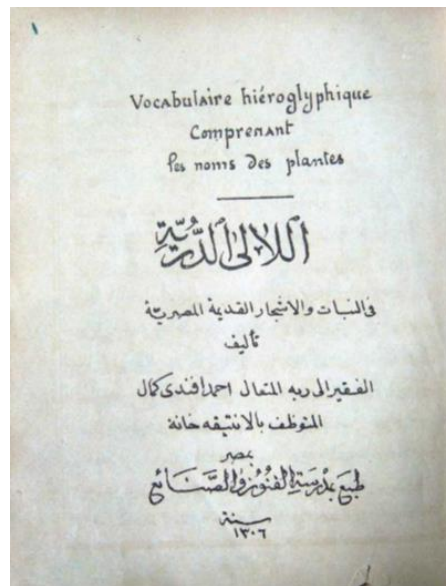


Fig. (1): The Dictionary of Ancient Egyptian Plants and Trees, authored by Ahmed Pasha Kamal in 1306 H

Ahmed Pasha Kamal didn't use the traditional transliteration of the ancient Egyptian graphemes. He had relied on the Arabic letters instead of the Latin letters in writing the phonetic pronunciation of the hieroglyphic signs (Ezzat & Mansour 2024, p. 120). This was an attempt from his side to link between the ancient Egyptian language and the Arabic language in both pronunciation and writing. This way (by using the Arabic letters) was first published in his book in 1885: *Al-Farā'id al-Bahiyyah fī Qawā'id al-Lughah al-Hīrūghlīfiyyah* (Al-Sharqāwī 2011, pp.45-46). He believed that the ancient Egyptian language belongs, in part, to the family of Semitic. Kamal followed the same methodology in the dictionary of the ancient plants and trees, which was printed three years after this publication.

Kamal was trying to find the linguistic roots between the Hieroglyphs and the Arabic. He succeeded in proving that ancient Egyptian is a branch of the Afro-Asiatic language family, meaning that ancient Egyptian has similarities to Akkadian, Arabic, and Hebrew, and is quite different from Indo-European languages like English, French, and German (cf. Al-Sharqāwī 2010, pp. 57-63; Ezzat & Mansour 2024, pp. 117-118). Kamal was the first

The Medicinal Plants in Ahmed Pasha Kamal's Dictionary of Plants and Trees

Arabic philologist who ascribed the Egyptian dialects to the Arabs throughout slang and philology (El-Qobiesy 2011, 33). That's why Kamal did not use transliteration in his dictionary except in a very few examples, because he depended on the Arabic letters instead of the usual Latin letters.

Kamal's dictionary of the ancient plants and trees was not just any lexicon limited to words and their equivalents in various ancient scripts and languages, along with their modern meanings. Instead, it included descriptions of the appearance of the plant or tree the word referred to, mentioning, whenever possible, some of its uses, such as offerings, medicinal treatments, oil for lighting, or woodcraft. He also placed the word in the context of certain texts, in addition to providing a geographical, historical, or analytical presentation of the term and its semantic development, comparing it with similar words. All of this was documented using references and scientific sources (Al-Sharqāwī 2010, p. 18).

The dictionary consists of 316 pages. Kamal annotated each hieroglyphic word, followed by its Arabic and French translations. In some cases, he also provided translations of the word in Hieratic, Demotic, Hebrew, Coptic, Greek, and occasionally in Amharic.

One of the key observations we would like to highlight is the choice of ornamentation representing the garden of Rekhmire, as depicted in his tomb, on the first pages of the book (Kamāl 1894, p. 3). The artist removed the boat illustrated inside the pool and replaced it with the phrase “Bismillah al-Rahman al-Rahim” (In the name of Allah, the Most Gracious, the Most Merciful), a phrase Muslims use at the beginning of any endeavor. The reason for choosing this figure goes to that the garden of Rekhmire, at Thebes (TT100), offers a detailed glimpse into ancient Egyptian horticulture and landscape design during the New Kingdom. The garden, typical of the noble estates of the time, was both functional and ornamental. It featured geometric layouts with neatly arranged trees, shrubs, and plants, likely organized into rectangular or square plots, with pathways dividing them (Davies 1943, pp. 12-13; Hugonot 1989, pp. 135-136; Wilkinson 1998, p. 102).

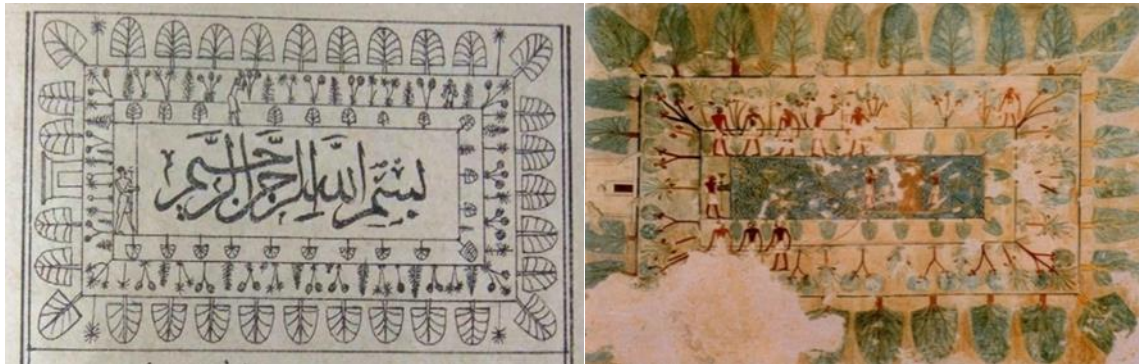


Fig. (2): An ornamentation representing the garden of Rekhmire, on the first pages of the book with the phrase “Bismillah al-Rahman al-Rahim”

Fig. (3): The garden of Rekhmire at Thebes (TT100), offering a detailed glimpse into ancient Egyptian horticulture and landscape design during the New Kingdom.

Ahmed Pasha Kamal's methodology in *Al-La'ali' Al-Durriya fi Al-Nabatat wa Al-Ashjar Al-Qadima Al-Misriyya* reflects his scholarly approach to documenting Egypt's ancient flora, blending philology, historical research, and comparative studies. He succeeded to add hundreds of words in this important dictionary. He meticulously examined the

hieroglyphic texts and inscriptions to identify terms related to ancient Egyptian plants and trees. He also paid close attention to the phonetic variations and conducted detailed analyses of letter forms, likely incorporating methods involving the transposition (قلب) and substitution (إبدال) of letters (Rashwan 2023, p. 23). The dictionary also explores the etymology of the Egyptian botanical terms, drawing parallels with words from Coptic and other Semitic languages. Kamal aimed to trace the linguistic roots and transformations over time, revealing connections between ancient Egyptian and Arabic terminologies, and his method will be discussed in detail in the following section.


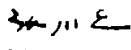
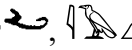

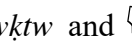
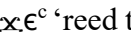
Moreover, Kamal identified the plants referenced in the ancient sources and compared them with flora described in the Islamic botanical literature. He also contextualized the importance of various plants in ancient Egyptian religion, economy, and daily life.



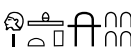
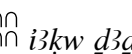
Kamal provided attempts at phonetic transcriptions for ancient Egyptian plant names based on hieroglyphic symbols, enabling connections between written and spoken language.



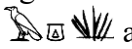
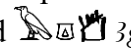
3. The Ancient Egyptian Remedies from Kamal's Dictionary of the Ancient Plants and Trees *Al-La'ali' Al-Durriya fi Al-Nabatat wa Al-Ashjar Al-Qadima Al-Misriyya*

In the context of this paper, the researchers adopted a systematic methodology in studying Ahmed Pasha Kamal's *Dictionary of Plants and Trees*, focusing on its relevance to ancient Egyptian medicine and pharmacy. It was noted that Kamal listed 24 words related to medicine along with their remedies, out of 627 words in total. These 24 terms will form the core of our study, focusing on how Kamal investigated and documented the medical plants in his dictionary. The study begins by identifying and analyzing the plant and herb names listed in Kamal's dictionary that were historically associated with medicinal practices. Each entry is examined for its linguistic structure, historical context, and medicinal application as described by Kamal. Following this, the selected terms are cross-referenced with Kamal's *Le lexique de la langue Egyptienne ancienne* to identify any variations in spelling, meaning, or classification. This relative approach allows researchers to compare the plant names in *Dictionary of Plants and Trees* with those in Kamal's *Lexique Dictionary*, to check if Kamal used the same terms consistently or if there were any changes. This also helps in understanding how these medicinal plants align with ancient Egyptian medical texts, providing insight into their medicinal uses and how Kamal classified them over time. In the following section, the terms will be listed alphabetically:

3.1 *ikt/I3kt/iky*, a water plant (Ar.: عرق الأيكر)

On pages 19-20, Kamal mentioned a plant called , ,  *ikt* or *ikw* that was mentioned in Pap. Anastasi IV, 14 as  *iwktw* and  *iktw*^a in *Papyrus Ebers*^b  ^c 'reed that grows in water', a kind of reed used for medical purposes.^d


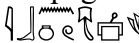
This was stated in Pap. Anastasi as:     *ikw d3d3 htp* 60, 60 bundles of reed heads. Additionally, it was used in the Egyptians' offerings, probably the so-called عرق الأيكر known as قصب الذريرة or 'aromatic reed' or 'Acorus'.

In the dictionary (Kamal 2002b, p. 22), Kamal gave other Coptic variants for this word, i.e.,  and , and that *ik* is equivalent to  and  ^e عرق الأيكر *ikw*.

Comments:

- a. It was stated in Kamal (2002b, p. 22) that this word is quoted from (Duemichen, 1866, p. 27). It is useful to clarify that we have two copies of the 2nd volume of Kamal's dictionary for the letter *i* and both are housed in BA, the one mentioned here is the unpublished copy, and the other copy was published by the Supreme Council of Antiquities. It appears to be a very elementary draft, which was modified later by Kamal.
- b. Kamal didn't mention the remedy number, whatever, it is no. 432; 64, 5-7 (Wreszinski 1913, p. 117).
- c. Černý (1976, p. 42) translated *Ṭkt/Ṭkt/iky* to 'leek', ⲛⲉⲉ in Coptic.
- d. The translation of the Berlin dictionary for *ibkt* is 'leeks or vegetables' (Erman & Grapow 1926, p. 34, 1-2, TLA lemma-no. 20990; cf. Deines & Grapow, 1959, p. 12).
- e. Translated as 'Plant' by Erman & Grapow (1926, p. 22, 8).

3.2  *Tbs3*, mountain mint (Ar.: نعناع جبلي)


On page 22, Kamal stated that  *ibs3* was a medical plant, possibly identical to  *ibnws3*^a Coptic ⲁⲃⲘⲚ 'mountain mint'.^b

Comments:

- a. Unidentified plant (Deines & Grapow 1959, pp. 26-27). (Erman and Grapow 1926 pp. 64, 16-17) didn't give a specific translation for this word, just "a plant from Wadi el Natrun".
- b. Or 'wild mint' (Černý, 1976, p. 2).

3.3  *Imst*, dill (Ar.: شبت)

In ancient Egypt, dill was an ingredient in a pain-killing mixture: A remedy for killing pains in all parts of the body, the seeds were used in an unguent for headache and in a poultice for the vessels of the shoulder and for the vessels of the neck. The Copts used dill as a mouth rinse. It is classified as both a vegetable and a spice, with its seeds being the part most commonly used. It is known to strengthen the stomach and heart, act as a carminative (relieving gas), and prevent hiccups. Additionally, it is considered a soothing and calming agent that aids digestion, helps reduce bloating and colic for children, and has been used in pain-relieving medications (Manniche 1989, p. 74).

On pages 26-28, Kamal mentioned the *imst* 'dill', i.e., Ar: *shabat* as  3ms (Erman & Grapow, 1926, p. 88, 9; Deines & Grapow 1959, p. 34), in Coptic $\lambda\mu\iota\sigma\iota$ and $\lambda\mu\iota\sigma\epsilon$ (Spiegelber, 1921, p. 5; Crum 1939, p. 56), in Greek $\acute{\alpha}\nu\eta\theta\omicron\nu$ (Montanari 2015, p. 174), l'aneth – الشبث. He added that it was mentioned twice in *Papyrus Ebers*, the first one in 47, 10, 13-14 as follows:^a




phrt nt dr st-^c m tp

prt imst 1 prt h3syt 1

prt š3w 1 innk 1

ht-ds 1 d 3 1 wrh tp im

Another remedy for relieving headaches: dill seeds: (1), poppy^b seeds (1), wormwood^c seeds: (1), cannabis^d (?): (1), raspberry^e: (1), donkey fat: 1. The head is to be rubbed with all this.

Kamal thus concluded that the word  st-^c here means 'headache', which is a persistent pain in the head.^f Then he stated the second remedy in *Papyrus Ebers* 81, 10-14.^g



kt nt sndm mtw n k^h

ntyw ndm 1 sntr 1 s3m 1



prt ibw 1 prt imst 1 gw 1

h3 t3y 1 wst nt š 1

ssk3 1 išdt nt nht

nsty n bš3 3mi m ht w^ct wt hr.s

Another remedy for relieving tension in the sinews or vessels of the shoulder: sweet myrrh: (1), frankincense: (1), garlic^h: (1), lettuce seedsⁱ: (1), dill seeds: 1, ?^j: (1), "male" tree juice: (1), Acasia fruit^k: (1), الفتنة^l: (1), sycamore fruit: (1), bš3 of sweet clover grain^m: To be mixed then applied to the affected area.

Kamal noted that these two prescriptions demonstrate the use of dill in ancient Egyptian medicine for treating headaches and soothing the nerves. Moreover, Kamal (2002a, p. 79) has recorded this plant in his dictionary in the following context:  3mis var de  Aneth (Copt. Handwort, p. 5) (Spiegelberg, 1921, p. 5).

Comments:

- a. Kamal mentioned it by mistake 11, 12-13, he used the rubric of remedy no. 248, and the rest is remedy no. 249 (Wreszinski 1913, p. 74). Generally, Kamal used the determinative 𐤀 (D40) instead of 𐤁 (A24), omitted all doses, and used 𐤁 (N33) 𐤁 instead of (X1) in the frequent word 𐤁𐤁𐤁 *prt*, also omitted 𐤁 in *innk*, and he used the determinative 𐤁 (E7) instead of 𐤁 (E20) in 𐤁 and both signs are compatible with the word.
- b. Translated to ‘a medical plant’ (cf. Erman & Grapow, 1929, p. 234, 3-5); or ‘Bryony/Bryonia’ (Faulkner, 1988, p. 185, 193; Deines & Grapow, 1959, p. 391-393).
- c. Kamal gave the translation الشويلا ‘wormwood’ for this word, known in Arabic with many other names such as شجيرة مريم، شجيرة رومي، أفسنتين. But it was translated ‘coriander’ in P. Ebers website by Sächsische Akademie der Wissenschaften zu Leipzig (SAW).
- d. 𐤁𐤁𐤁 as translated by Kamal, and it was translated to ‘fleabane (?)’ in SAW.
- e. 𐤁𐤁𐤁 as translated by Kamal, and ‘thorn-wood’ in SAW.
- f. ‘a disease’ is the translation of Erman & Grapow (1926, pp. 157, 5) for this word.
- g. Kamal provided the line numbers inaccurately 10-11, remedy no. 650 (Wreszinski, 1913, p. 163).
- h. *s3m* was stated as a ‘medical plant’ in the Berlin dictionary (cf. Erman & Grapow, 1930, p. 45, 14-15; 43, 3).
- i. *ibw* plant was identified as ‘a medical plant’ (Erman & Grapow, 1926, pp. 95, 13-15); or *Lactuca sativa* ‘lettuce’ (Loret, 1892, p. 68, no. 113), followed by Kamal, *Al-La’ali’ Al-Durriya*. Deines & Grapow (1959, p. 21) stated that *ibw* plant is not yet identified, of which, outside of official use, it is mentioned that bread is made from it.
- j. *gw* grass (?).
- k. ‘Sawdust from an 𐤁 conifer’ in SAW.
- l. *ssk3* (?)
- m. 𐤁𐤁𐤁 *Hunduqooq* refers to a plant commonly known as alfalfa (*Medicago sativa*) in English. It is a perennial herb widely grown as animal feed due to its high nutritional value. This part was translated ‘*nsty* shoots from *b33* grain (product)’ in SAW.



3.4 𐤁𐤁𐤁 *Iniwīw*

On page 29, Kamal stated that the plant 𐤁𐤁𐤁 *iniwīw* was mentioned in Berlin Medical Papyrus 6, 5,^a but with an unknown meaning, it was translated as a “plant”. Kamal (2002b, p. 181) recorded another orthography for this word in his dictionary as follows 𐤁𐤁𐤁 (Prisse XVIII, 8) var. of 𐤁𐤁𐤁.

Comments:

- a. Pap. Berlin 3038, remedy no. 65 (Wreszinski 1909, p. 13). Kamal (2002b, p. 181) stated in his dictionary that this word was also mentioned by Levi (1889, p. 29).

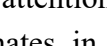
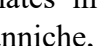
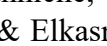



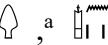


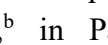

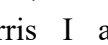


3.5 *Inb*, eggplant? (Ar.: الأنب/الباذنجان؟)

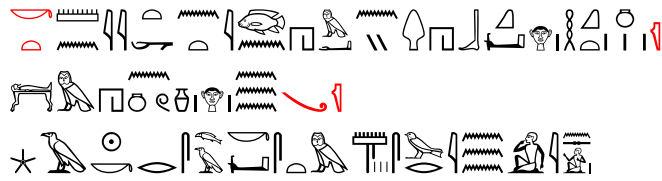
On pages 29-30, Kamal mentioned that  *inb* was a medical herb^a that was stated in *Papyrus Ebers*.^b According to Chab. Mél. 1864 p. 272^c its fruit is called *inb* . Kamal suggested that it may be equivalent to *Anab* (الأنب in Arabic), which refers to the 'eggplant'.

Comments:

- Its definition in the Berlin dictionary is 'type of field or garden plant with fruit' (Erman & Grapow 1926, p. 95, 13-15); the same in Deines & Grapow (1959, p. 38).
- In many remedies such as 16, 90, 91, 535, 663.
- No mention in Chabas (1864, p. 272).

3.6 *Inhmn*, pomegranate (Ar.: شجرة الرمان / رمانة)

On pages 30-33, Kamal gave significant attention to the *inhmn* (pomegranate). He started with the variant orthographies of pomegranates in hieroglyphs as: , ,  *inhmn* (Deines & Grapow, 1959, p. 42-43; Manniche, 1989, 139; TLA lemma no. 27690; Erman & Grapow, 1926, p. 98, 13-15; Ezz el-Din & Elkasrawy, 2020, 64-65), in Pap. Anastasi 5, 7 was mentioned as , , , , , , , , , , , ,



kt mnit inhmn hbk hr hnkt 1/64

sdr m hnw hr mw 1/32 1/64

dw3.k r sh3k st m hbs swri in s

Another remedy: peel of pomegranate: to be pounded with (1/64 beer); (then) left to stand overnight in a *hin* pot with (1/32+1/64) of water. You should rise early in order to sieve this through a cloth, then to be drunk by the human.






Kamal continued to present the medical uses of pomegranate, mentioning Zoega's (1810, p.628) Coptic medical papyrus,¹ specifically the following passage: “εΚΩΔΗΧΙ^k ΝΕΝΚΟΥΚΕ ΝΕΡΜΑΝ ΝΓΑΑΣΜΟΥ ΝΓΘΝΟΟΥ ΖΙ ΗΡΠ ΝΓΤΩΣ ΕΝΕΤΩ ΝΨΩΡΑ ΩΑΥΛΟ”. If you have pomegranate peel, break it and grind it with wine and apply it to the scabies marks, and they will go away”. Then he moved to prove the effectiveness of this treatment from the contribution Ibn al-Baytar entitled *al-Mufradat* 2nd vol. page 143 (Ibn al-Baytār 1992, p. 440), where he mentioned that if pomegranate peel or its fallen fruit is burned, then mixed with honey and applied to smallpox scars and other marks for several consecutive days, their traces will disappear.

Then he reviewed the remedies of Al-Razi in *Al-Hawi* where he stated that if the peels of pomegranate are crushed, and a measure of 15 was taken by a person who is suffering from worms, and then he drinks hot water, it will get it out effectively. Al-Razi also stated that pomegranate is beneficial for treating itching and scabies and that it strengthens the stomach without causing any harm (Al-Rāzī 2000, pp. 3091-3094).


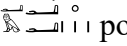
It's worth mentioning that pomegranate was not native to Egypt and was likely introduced during the New Kingdom as a result of campaigns in Western Asia. However, some scholars contend that it was adopted earlier during the Middle Kingdom. The earliest remains of pomegranates in Egypt were discovered at Tell el-Dab'a in the Delta, a site likely inhabited by the Hyksos culture. It has thus been suggested that the tree's diffusion occurred during the 13th Dynasty due to renewed connections with the Levant (Ezz el-Din & Elkasrawy 2020, p. 56). Pomegranate may be used in the treatment of dysentery, diarrhoea, stomach-ache, and skin ailment (Manniche 1989, p. 140). In a publication of Kamal entitled *Bughyat al-Talibin fi Ulum wa Awaid wa Sanaai wa Ahwal Qudama' al-Misriyin* (Kamal 1909, p.366), He mentioned that during the Ramesside period, the ancient Egyptians produced pomegranate wine, which they referred to as ‘*šdh/šdhw*’,¹ it is likely that pomegranate trees had spread to the Dakhla Oasis, as Ptolemaic texts mention this drink among the primary crops produced in the region.





Comments:

- This word occurred in Pap. Anastasi IV, 17, 5, but with 𓂏 after 𓂏, and 𓂏 after the determinative at the end (Gardiner, 1937, p. 54).
- This word also occurred in Pap. Anastasi III, 2, 5, but slightly different as 𓂏𓂏𓂏𓂏𓂏𓂏𓂏𓂏𓂏, see: (Gardiner, 1937, p. 20).
- Kamal omitted the stock 𓂏 after 𓂏 and 𓂏 after the determinative at the end (Erichsen, 1933, 16a, 10)
- This word occurred in Pap. Harris I (Erichsen, 1933, 40a, 14), but with the group 𓂏𓂏 instead of 𓂏.

- e. *Papyrus Ebers* 19, 19-20, remedy no. 63 (Wreszinski, 1913, p. 18).
- f. <https://dictionary.abbyssinica.com/pomegranate> (last access: 15/6/2025).
- g. Remedy no. 50 (Wreszinski, 1913, p. 15). Some inaccurate signs were transcribed by Kamal, such as  (Aa23P?) instead of  (N4), and  (A236?) instead of  (A36C).
- h. Inaccurate translation for *mnyt nt inhmn* 'roots of pomegranate' here and in the next remedy.
- i. *Papyrus Ebers* 19, 19-22, wrongly stated by Kamal as 14, 19-22, remedy no. 63 (Wreszinski, 1913, p. 18).
- j. Preserved in the Vatican. It consists of two parchment sheets, consisting of four pages and contains 45 remedies for skin diseases, and was written in Sahidic Coptic. These sheets were part of a book in which one of its recipes states that it was translated from the medical papyrus that was kept in the library of Imhotep in Memphis.
- k. Kamal copied this word inaccurately as $\epsilon\rho\upsilon\alpha\lambda\chi\iota$.
- l.  (Erman & Grapow, 1930, pp. 568, 12-17), but Erman and Grapow didn't recognize this drink, and they just mentioned that it is a sweet drink related to wine.

3.7 m^c , a medical herb (Ar.: حب البياض / القمح)


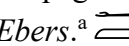
On page 54, Kamal reviewed a plant called  m^c , a medical herb stated in *Papyrus Ebers*,^a  possibly its grains, and it looks like the wheat's grain (cf. Deines & Grapow, 1959, p. 91-94; Erman & Grapow, 1926, p. 186, 3-4).

Moreover, Kamal (2002c, p. 145-146) stated that this word was mentioned in *Papyrus Ebers* 81, 5 in the context  $m^c n bty$ 'wheat grains' حب البياض أي القمح; and  $m^c n bty hdt$ 'white wheat grains' in *Papyrus Ebers* 73, 4-5, and  $m^c n it$ 'barley grains' in *Papyrus Ebers* 81, 5-6. In a different context in *Papyrus Ebers* 75, 15 was stated  $nd m^c hsmn d\dot{s}r$ 'grind the grains of red natron'.





Comments:

- a. For example, in remedies nos. 555, 590, 699, 704, 745, etc.













3.8 mmw , a medical herb







On page 54,  mmw was mentioned as a medical herb. It was mentioned in *Papyrus Ebers*.^a  which was mentioned in the tomb of Seti I, is possibly a variant for the same plant.

Comments:

- a. A plant called  $m3w$ was mentioned in remedies nos. 66, 94, and  in remedies nos. 78, 79, 82, 83, etc. We are not sure about Kamal's orthography for this word; he may have made a mistake when he replaced this sign  with another . Anyway, $m3w$ couldn't be identified by Deines and Grapow (1959, p. 88-90), it was translated as an official plant in (Erman & Grapow, 1926, p. 185, 5); a plant (a very juicy fruit?) (TLA lemma-no. 37600).

3.9 *Acacia Nilotica* (Ar.: سنط النيل/ السنط النيلي)


On pages 65- 68, Kamal mentioned the , , , , , , , , ,  *Acacia Nilotica* السنط,^d stating that parts of this tree were used in medical treatments to heal stomach ailments, head and leg pains, expel blood waste, soften dry blood vessels, and treat uterine prolapse. He added that acacia has many common varieties worldwide, but the most famous one is the Arabic gum tree located in Arabia, Egypt, and Morocco, and the well-known ones are the *Acacia Arabica*, *Acacia vera*, *Acacia adansonii*, *acacia farnesiana*.^e This tree has a nice smell and the ancient Egyptian known only two types of it, the black acacia, similar to the *Acacia Nilotica*, and called  *Acacia*; and the white acacia similar to *acacia farnesiana* and called  *šnd*.^f

Kamal (2002c, p. 133/284) added in his dictionary that an oil called , , , , ,  *h3tt (nt)* *Acacia* ‘cedar oil’ (cf. Erman & Grapow 1929, pp. 28, 10) زيت الهادي was extracted from this tree.

Comments:

- In Kamal (2002c, pp. 133/284), many citations were given for this word, i.e., *Papyrus Ebers*, 74, 12; 46, 14; 77, 21; 83, 1; 93, 19, and in Chabas (1861, p. 48).
- Cited by Lepsius (1842, 134, 9) as mentioned in Kamal (2002c, p. 133/284).
- Cited in (Loret, 1880) on page 62, not 65 as cited in Kamal’s dictionary mentioned above.
- translated to ‘fir tree’; ‘coniferous wood’ (TLA lemma-no. 40940; Germer, 1985, pp. 7-8).
- In Arabic: سنط العنبر
- cf. *šndt* and *šnd* in (Erman & Grapow 1930, pp. 520, 9-521, 15).














3.10 *bsbs, tamarix* (Ar.: الأثل، الطرفاء، الكشت/البسباسة)

On pages 96-97,  *bsbs* was reviewed. Kamal stated that the name of this tree was mentioned repeatedly in *Papyrus Ebers*.^a Its fruits and seeds were used as a laxative, which led Maspero to suggest that it might be Tamarisk.^b This tree was widespread in Egypt and was commonly used as a treatment for eye pains, especially in rural areas. *Bsbs* is similar to the Arabic name *basbasah* (البسباسة), possibly referring to *myristica mochata* (nutmeg). The Arabs were familiar with this tree, and it was eaten by both humans and livestock.

Comments:

- Remedies nos. 90, 106, 110, 112, 114, 554 etc.
- Couldn’t be identified by Deines & Grapow (1959, pp. 180-181), ‘A kind of fruit’ as interpreted by Erman & Grapow (1926, p. 477, 2-4).







3.11 *b3k, moringa* (Ar.: المورينجا/البان/شجرة اليسار)

On pages 97-100, an interesting case discussed in Kamal’s dictionary involves the *b3k* plant. He wrote various variants for *b3k* as , , , , , , , , , , . It was mentioned by Brugsh (1868a, p. 424-426) and others. It was also mentioned in LD page 6 as , and in the Book of the Dead chapter 31, 3 (Lepsius, 1842, pl. XVI) as  myrobalan, *moringa oleifera* شجرة اليسار. Kamal added that this tree grows up to 5 meters in height and was widely spread in Egypt and Arabia. Its oil was used by the ancients for perfume and had medicinal benefits for the stomach and head,

incorporated in the Book of the Dead (Navelle, 1917, p. 229). Our sincere gratitude to Prof. Dr. Mamdouh El-Damaty for informing us about this info.

- h. *b3k* oil it definitely 'moringa oil' not 'olive oil' (cf. Koura, 1995, p. 79-82).






3.12 *m3/m3tt*, *Cyperus papyrus*

On page 119, , ,  *m3^a* was mentioned as a type of fruit or plant, literally meaning "the eye plant". It was referenced in the Berlin Medical Papyrus and has two varieties:  that grow in the plain lands and another called  *m3 h3st* that grows in the desert. Brugsch (1868a, p. 594) stated that  *m3ty* is a variant and may correspond to the Mamitha or *Glaucium proparartm*?

Comments:


- a. *m3tt* is unidentified by Erman & Grapow, (1928, p. 33, 11-15) 'celery' or 'parsley' in (Deines & Grapow, 1959, p. 214-217; Germer, 1985, p. 137-138).

3.13 *hy*, papyrus (Ar.: الغافر)


On pages 169-170, Kamal mentioned a plant called  *hy* papyrus, referring to it as follows:   σκηπτρον παπυροειδης^a (Decree of Canopus)  . He noted that it resembles papyrus (cf. Brugsch's Dictionary p. 355). Sulayman ibn Hassan^b stated that papyrus is a type of reed, known to the Egyptians as الغافر. It is an aquatic plant with leaves resembling palm fronds and a long green stem. It is used to make paper suitable for writing or rolling,^c i.e., 'the papyri'. Whenever it was mentioned in a medical text a (burnt) papyrus, this plant is meant. This plant has numerous medicinal uses and belongs to the *Cyperus papyrus* family.

- a. Kamal misspelled the word *παπυροειδης*. Whatever, this word was mentioned on lines 62-63 of Decree of Canopus (Sharpe, 1870). Our sincere gratitude to our dear colleague Rana El-Zalabany for her assistance in identifying and interpreting this term within the text.
- b. Abu Dawud Sulayman Ibn Hassan Ibn Juljul an Andalusian Arab physician and pharmacologist.
- c. 'الكاغد' according to Kamal.


3.14 *h'1*

On page 188, Kamal stated that  *h'1* was one of the components that makes the Kyphi incense^a melange dans Dümichen IV, 82/6 (E. De rouge, dict. mis).^b

comments:

- a. Kyphi, cyphi, or Egyptian cyphi  *kpt* is a compound incense that was used in ancient Egypt for religious and medical purposes.
- b. Kamal did not give the intended page number in this reference.


3.15 *hnš*, a plant (Ar.: الخنثى)

On page 193,  *hnš* (cf. Deines & Grapow, 1959, p. 400) was referred as the name of a plant whose fruits were used in medicine (in *Papyrus Ebers*).^a It may correspond to *Asphodelus* الخنثى.^b Dioscorides described it as a common plant with leaves resembling those of a leek, a smooth stem topped with a white flower, and long, round roots similar in shape to those of an oak. The plant is characterized as hot and spicy.

Comments:

- a. In remedy no. 835 in particular.
- b. In Arabic known as السريش، أشراس، البزوق، أو الخنثى (cf. Kamal, 2002e, p. 345).

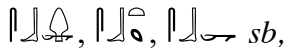
3.16 s3yt, Plantago? (Ar.: لسان الحمل؟)


On pages 200-201, Kamal mentioned a plant called  s3yt (in the *Medical Papyrus of Berlin 3. G-E*), which was widely used for medicinal purposes. It is possibly identified as $\lambda\sigma\omicron\gamma\tau$ (Plantago الحمل لسان) (عبد النور، ٢٠٠٠، ص ١٢). The plant exists in both forms, large and small, with the larger one being the most useful.^a

comments:

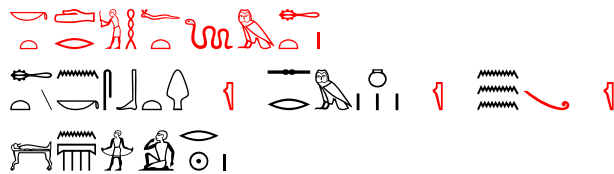
- a. 'Unidentified plant' by Deines & Grapow (1959, p. 421) and Erman & Grapow (1930, p. 16, 12-14).

3.17 sb, Lebanese cedar (Ar.: الشربين)

On pages 209-214, another plant reviewed by Kamal is the sb plant  sb, mentioned in Brugsch's dictionary page 1185, $\sigma\iota\alpha\iota$, $\mu\iota\sigma\epsilon\upsilon\sigma\iota\sigma\iota$, $\sigma\iota\beta\iota$ 'Lebanese cedar' الشربين.

Loret (1880, p. 60) stated that  sb is believed to be cedar due to its medicinal properties mentioned in the *Papyrus Ebers*, as well as its references in Greek and Latin medical sources. *Papyrus Ebers* stated that it was used to eliminate worms called $\text{ḥ}f3t$ and pdn and to heal ear pain idn as stated in the following remedies:

Papyrus Ebers, 17, 2-8. remedy nos. 53-54 (Wreszinski, 1913, pl. 16).^a



kt dr hf3t m ht

ht/hr nk sb 1/64 srm 1/64 mw 1/32 1/64

sdr n i3dt th swri r hrw 1

Another remedy for eliminating worm from the abdomen: resin of Lebanese cedar^b: (1/64), date pulp (?): (1/64), water: (1/32+1/64). To be left overnight for condensation to form; (then) squeezed out. To be drunk over 1 day.

Papyrus Ebers, 17, 9-18, 2 remedies nos. 55, 57 (Wreszinski, 1913, pl. 16).^c



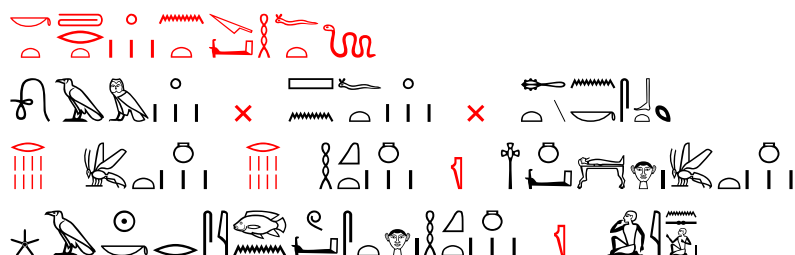
kt phrt nt sm3 hf3t

ht/hr nk sb rdi ir.f hrw 4 hr hmt-nw sdr n i3dt

sh3k m mht diw-nw hrw rdi nn gm wš hr idn sdr i3dt m šmw

Another remedy for killing worms: resin of Lebanese cedar: to be arranged that spends 4 days in three vessels and to be sieved dish into five vessels, and make the eight vessels for the one who is deaf, drip (it for him) in summer.^d

Papyrus Ebers, 17, 9 and 18, 7-15 remedy nos. 55, 59 (Wreszinski, 1913, pl. 16-17).^e



kt phrt nt sm³ hf³t

w³m ¼ šnft 1/4 ht/hr nk sb

1/8 bit 1/8 hnkt 1/64 n_d sdr hr bit

dw³.k r sin.st hr hnkt 1/64 swri in s

A remedy for killing worms: Another (remedy): w³m (fruit): (a quarter), black caraway^f: (a quarter), resin of Lebanese cedar^g: (1/8), honey: (1/8), beer: (1/64). To be ground; (and) left with honey to stand overnight; you should rise early, in order to rub this into (1/64 of) beer. Then to be drunk by the human.


Papyrus Ebers, 22, 1-2 remedy no. 72 (Wreszinski, 1913, p. 20):



kt phrt nt sm³ pnd





ht/hr nk sb 1/64 nht 1/16 psi th swri hr-wy

Another remedy for killing *pnd* worm: resin of Lebanese cedar: (1/64), *nhty* vessels: (1/16). Dish it, cook it; (then) squeeze it out. To be drunk immediately.^h

Kamal added that Loret stated that  *sb* means the 'Lebanese cedar', which grows in the mountains of Lebanon and is also said to be found in the Taurus Mountains. It reaches a height of 60 feet, with widespread branches and dense needle-like leaves. The tree bears fruit year-round, producing purple, striped cones. Its wood is hard, resinous, and fragrant, resistant to mites and impermeable to moisture. For these qualities, it has been highly valued since ancient times.

Kamal noted that the correct interpretation of this tree is that it is called the *Sherbin* (الشربين), with its smaller variety known as *le cèdre ordinaire* (شاربين). It is a large tree that produces resin and bears fruit similar to that of the cypress tree, though much smaller in size. The *Sherbin* tree can also be small and thorny, bearing fruit similar to that of the juniper tree, with a round seed resembling that of the myrtle. Both varieties produce resin. The Egyptian, Coptic, and Arabic words exhibit verbal similarity and share identical properties in terms of medical treatments. This serves as evidence supporting Kamal's conclusion.

Comments:

- a. Again, Kamal transcribed  (Aa23P ?) instead of  (N4),  (A236 ?) instead of  (A36C).

- b. ‘The *hr/ht* part (?) of an umbrella acacia’, this component is followed by *srm* that wasn’t translated by Kamal, ‘date pulp’ in SAW.
- c. Beside the other repeated mistakes above, Kamal omitted ⲟ in $\text{ⲟ}\text{ⲛ}$, and he transcribed ⲛⲛⲛ instead of ⲛⲛⲛ .
- d. Different translation in SAW as follows: “(A remedy for killing a *hf3t* parasitic worm): The *hr/ht* part (?) of an umbrella acacia (fruit?): To be arranged that this spends 4 days in a “third (decantation)” (?); (and then) left overnight for condensation to form; (this is) to be sieved into a dish on the 5th day; To be placed into (???) --- FOUND EMPTY --- to be deaf (?); (This is) left overnight in summer for condensation to form. (And) drunk in the morning”.
- e. Kamal used the sign ⲟ instead of ⲉ in ⲉⲛⲟ .
- f. *snft* is unidentified by Erman & Grapow (1930, p. 514, 13).
- g. ‘*hr/ht* part (?) of an umbrella acacia’ as mentioned above.
- h. A slightly different translation in SAW as follows: “Another remedy for killing a tapeworm (?): *hr/ht* part of an umbrella acacia: 1/64, strong beer: 1/16. To be cooked; (then) squeezed out. To be drunk immediately”.

3.18 ⲛⲁⲃⲱ *šbdy*, Malva (Ar.: *شُبَيْزِي، خُبَازِي، خَبَازِي، خُبَيْزٌ*)

On pages 242-243, Kamal mentioned a plant called ⲛⲁⲃⲱ *šbdy* identified as *khobbaza* (Malva, *خُبَيْزٌ*). Brugsch (1868b, p. 1375) stated that it is a medicinal plant.

3.19 ⲛⲁⲃⲱ *šmstw*, a medicinal plant

On page 258, ⲛⲁⲃⲱ *šmstw* (cf. Deines & Grapow, 1959, p. 477-479; Kamal, 2002f, p. 44) is a medicinal plant as mentioned by Brugsch (1868b, p. 1392).

3.20 ⲛⲁⲃⲱ *ksbt/ksbw*, Ricinus? (Ar.: *الخروع*)

On page 276, Kamal mentioned a plant called ⲛⲁⲃⲱ *ksbt^a/ksbw*, a tree whose bark and juice were used in medicine, according to Brugsch’s (1868b) dictionary p.1500. He stated that it is possibly identical to a plant ⲛⲁⲃⲱ , whose fruit is called ⲛⲁⲃⲱ , as mentioned in Pap. Ebers, ⲛⲁⲃⲱ , identified as the Ricinus seed (*حب الخروع*).

Comments:

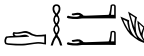
- a. ‘Unidentified plant’ by Deines & Grapow (1959, p. 530); Germer (2008, p. 144-145); and Erman & Grapow (1931, p. 141, 1-4).


3.21 ⲛⲁⲃⲱ *ti^cm*, garlic (Ar.: *ثوم*)

On page 297, another plant was mentioned, ⲛⲁⲃⲱ *ti^cm* identified as garlic,^b a plant used in medicine, known as ⲛⲁⲃⲱ in Hebrew.

Comments:

- a. Kamal (2002g, 20, p. 29/8) copied this orthography from *Papyrus Ebers* 90, 9, and he gave another detail that this word is an equivalent to ⲛⲁⲃⲱ *s^cm* ‘type of acid plant’.
- b. ‘Unidentified plant’ (Deines & Grapow, 1959, p. 548-549; Erman & Grapow, 1931, p. 241,12-13).


3.22  *dh*^{cc}, a medicinal plant

On page 306,  *dh*^{cc} is a medicinal plant^a and was mentioned by Brugsch.

Comments:

- a. 'Unidentified plant' (Deines & Grapow, 1959, p. 579; Erman & Grapow, 1931, pp. 481, 11).

3.23  *ds*, a medicinal herb (Ar.: الدشيش)

Finally, on page 307, Kamal mentioned that  *ds* is a medicinal herb (Chabas voy. 51, 37, 175) (Chabas, 1866, p. 51) and suggested that it may correspond to الدشيش (*Dešiš*).

4. Conclusion

The foregoing review shows that we are dealing with a unique work, even though it is old, it is still a valuable contribution. This publication is a dictionary arranged alphabetically, each hieroglyphic word was given with its variants with a source or reference for each, if possible, and with the equivalent in other scripts and languages, if any, such as Demotic, Coptic, Hebrew, etc., then followed by a detailed explanation of this plant and its botanical term in many cases, in addition to medical remedies which shows its various uses. It is clear that Kamal was far ahead of his time, he presented his precocious material with excellent quality, and followed a clear, specific, and consistent methodology in his work. It's interesting that the same methodology used in the later publications and still used today. Kamal's dictionary of ancient Egyptian plants was most likely the first step for his monumental dictionary of the ancient Egyptian language, in which he added more information over time. Finally, this book and Kamal's other undervalued contributions in general need to be re-evaluated, re-issuing it again in an up-to-date version that befitting the author's status is an immense project that must be discussed to save the moral right of the first Egyptian Egyptologist and archaeologist, Ahmed Pacha Kamal.

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