

## Euro Pharmaceutics 2019: Medicinal plants of the bible - past, present and future- Amots Dafni- Haifa University.

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### Abstract:

Based on data on archaeobotany and ethnobotany of the Holy Land, survey of the use of Medicinal plants in the Holy Land throughout history as well as at the present time, and a Revision of the medicinal plant of Assyria we suggest a new list of the Medicinal Plants of the bible. While Duke and Duke (1983) enumerated not less than 176 plant species as “Biblical Medicinal Plants” and Jacob (1993) only 54, in our survey we suggest reducing that figure to 37. The overlap between Jacob’s list and ours is 19 species in total. Our contribution is 18 “new” suggested Biblical Medicinal Plants.

### This discrepancy is due to three reasons:

1. Not less than 22 species in Jacob’s list are not recognized today (Amar, 2012) as valid Biblical plants names at all, or they are not related to specific species.
2. Several identifications from Campbell-Thompson (1949), the only Mesopotamian source used by Jacob, are no longer recognized by modern Assyriologists.
3. Several Mesopotamian plants were only recently identified in medical context.

### In our list there are three groups:

1. Plants which are mentioned directly as medicinal plants in the Bible: Fig (*Ficus carica*), Nard (*Nardostachys jatamansi*), Hyssop (*Majorana syriaca*), Balm of Gilead (*Commiphora gileadensis*) and Mandrake (*Mandragora officinarum*= *M. autumnalis*).
2. Plants which are mentioned in the bible and are known as medicinal in post Biblical Jewish sources and / or Egypt and/or Mesopotamia (28 spp.)
3. Plant which are not mentioned in the Bible but are present in the Holy Land and are known as medicinal in post Biblical Jewish sources and / or Egypt and/or Mesopotamia (12 spp.) According to our survey, all the 45 suggested BMP’s are still in medical use today in the Middle East and are subjected, at the 21 century, to an active research in attempts; to understand their chemical composition and/or Medical activity and/or Isolation of new compounds for new drug development. Shakya (2016) mentioned “Top 25 Bioactive Compounds of Medicinal plants”, his list includes also : Curcuma longa, Ricinus communis, Piper nigrum, Aloe vera, Nigella sativa, Artemisia absinthium and Allium sativa = 24% of our list of Biblical Medicinal Plants!! As written in the Bible: “That which has been is what will be, that which is done is what will be done, And there is nothing new under the sun”.

### Background:

Most of the massive research on the identity of Biblical plant names is based on linguistics and philology [1,2,3,4,5,6,7,8 and references therein]. Włodarczyk [9] reviewed “how many plants are mentioned in the Bible” and concluded that the list

contains 206 plant names, 95 of which “are recognized by all contemporary researchers of the floras of the Bible.” This discrepancy is not at all surprising since most authors of books on plants of the Bible [4, 10,11,12,13,14,15,16,17 except 3, 5,6,7] were not familiar with Hebrew and/or the Holy Land flora. For example, Duke [1] enumerates at least 176 species as “Biblical Medicinal Plants” (hence BMPs), while the total number of recognized plants in the Bible is about 100 [8]. Needless to say, too many species of his list are not related at all to the flora in the region and were never grown or traded in the ancient Middle East. Jacob [2] listed 55 plants (most on a species level but some on a genus level) as BMPs, based on a comparison to Ancient Egyptian and Mesopotamian literature.

### Identification of Ancient Mesopotamian and Egyptian plants:

Plants are undoubtedly the main source for curing and alleviating diseases in Ancient Mesopotamia and Ancient Egypt. Both civilizations belong to the world of the Old Testament, which explains why a short survey about their knowledge of medicinal plants is included. In the strict sense, Mesopotamia refers to the “land between the rivers,” namely the Tigris and Euphrates, but the region includes the area most of now Iraq, eastern Syria and southeastern Turkey. While the first written documents, namely clay tablets, date to the end of the 4th millennium BCE the main information on medicinal plants comes from cuneiform tablets dating to the second and first millennia BCE. Ancient Egypt spans the region of the Nile Valley, reaching areas east and west of it along the Mediterranean coast; to the south, Ancient Egypt stretched deep into the north of modern Sudan. The first hieroglyphic texts on medicine date to the middle of the second millennium BCE.

### Methods:

Some problems regarding the identity of Biblical plant names originated from misunderstandings of the original Hebrew version in which many plant names are not clear. A new study of the flora in the Old Testament provides new scope concerning plants mentioned in the Bible, while assessing the reliability of all previously suggested botanical identifications of plant names. Plant names in the New Testament have been revised in recent dictionaries, e.g., Greek-English Biblical dictionaries and translations. Similar problems arose over modern references concerned with plants in the Talmud.

In our survey, we suggest reducing this list to 45 plant species. Our contribution comprises 20 “newly” suggested Biblical Medicinal Plants. Only five species are mentioned directly as medicinal plants in the Bible. No fewer than 18 medicinal plants are mentioned in old Jewish post-Biblical sources, in addition to those in the Bible. Most of these plants (15) are known also in Egypt and Mesopotamia while three are from Egypt only. Seven of our suggested species are not mentioned in the Bible

or in the Jewish post-Biblical literature but were recorded as medicinal plants from Egypt, as well as from Mesopotamia. It is quite logical to assume that they can be included as Biblical Medicinal Plants.

**Conclusions:**

All our suggested Biblical Medicinal Plants are known as such in Ancient Egypt and/or Mesopotamia also. Examination of our list shows that all these plants have been in continuous medicinal use in the Middle East down the generations, as well as being used in the Holy Land today. Precisely in King Solomon's words, "That which has been is what will be, that which is done is what will be done. And there is nothing new under the sun".