

MUSTARD SEED: A MYTH, APHORISM OR MISIDENTIFICATION

Authors: - *Amodu Emmanuel,¹ Osuolale Olayinka² and Osalumese Omokhomion³

¹ Department of Plant Science and Biotechnology, Federal University of Lafia, Nasarawa State.

² Applied Environmental Metagenomics and Infectious Disease Research (AEMIDR), Elizade University, Ilara-Mokin, Nigeria.

³ Department of Plant Science and Biotechnology, University of Benin, Edo State

*Correspondence: amoduemmanuel212@yahoo.com Tel.: +2347032910023

ABSTRACT

Mustard was perceived to be the smallest seed in the world that will eventually grow to become one of the greatest trees of the field. This perception was created because of the parable of the mustard seed and the kingdom of God told by Our Lord Jesus. Ever since, theologians, botanist, historians and other groups of professionals have tried to explain this parable using plants in the genus *Brassica* from the family Brassicaceae. Morphological analysis and life cycle of plant from this family shows that they did not satisfy the main word in the aforementioned parable because most plant in the family are forbs (herbaceous) there by complete their life cycle within one year. Another plant in the family cleomaceae or capparidaceae, bear the common name mustard. This plant also does not fit in as taxonomic evidence shows that it is as well herbaceous, an ephemeral or annual plant. Some plants in the genus *Eucalyptus* satisfies the description of the plant which the parable used, in describing the magnitude of the kingdom of God. *Eucalyptus camaldulensis* which belongs to the family myrtaceae, this plant has the characteristics that satisfies the Similitude in the parable of the kingdom of God and the mustard seed. As seen in the result of this study (see table 1) *Eucalyptus camaldulensis* is majorly domicile in catholic missions though introduced by foreign missionaries but the reason for their introduction cannot be ascertained yet. *Brassica juncea* was also introduced by foreign missionaries and known by most respondents compared to *Eucalyptus camaldulensis*. The seeds of *Eucalyptus camaldulensis* are approximately 1 mm each, the seedlings are slow growing reaching a height of 0.9 cm after 2 weeks of germination, the mature tree attain a height of over 50 m after 20 years (see plate 1). This plant is very common in monasteries catholic churches established by Europeans in Nigeria.

INTRODUCTION

The popular name for the smallest seed in the world as supposed is mustard seed. The mustard seed is very unique with a parable in the Bible told by Jesus Christ which is known as the Parable of the mustard seed and the Kingdom of God. In that parable, Jesus Christ said, "What shall we say the Kingdom of God is like? He asked. What parable shall we use to explain it? It is like this. A man takes mustard seed, the smallest seed in the world and plants it in the ground. After a while it grows up and becomes the biggest of all plants. It put out such large branches that the birds come and make their nest in its shade" (Mark 4: 30-32 Good News Bible).

The earliest reference to mustard is in India from a story of Gautama Buddha in the fifth century BC. Gautama Buddha told the story of the grieving mother (Kisa Gotami) and the mustard seed. When a mother loses her only son, she takes his body to Buddha to find a cure. The Buddha asks her to bring a handful of mustard seeds from a family that has never lost a child, husband, parent, or friend. When the mother was unable to find such house in her village, she realized that death is common to all, and she cannot be selfish in her own grief (Wikipedia).

Many authors have used many plants with small seeds especially plants in the family Brassicaceae to demonstrate the parable of the mustard seed told by Jesus Christ in the Bible, many of these authors went as far as publishing plants that are found in Israel bearing the name mustard and backing those claims with pollen analysis and carbon dating by localizing the words in that parable but they fail to understand that, as a mystical being, Jesus was able to see beyond the coast of his local community as such, His experience with plants was not stationary as many people thought. The genus *Brassica* is commonly used in most literatures to explain this parable because most plants in the

genus have the common name mustard. On the contrary, *Brassica juncea* (Brown mustard), *Brassica nigra* (Black mustard) and *Brassica alba* (White mustard) which are commonly used to explain this parable are not tree, they are all forbs.

In trying to tell the actual plant, Ben Witherington (2001) notes that Jesus could have chosen a genuine tree for the parable, and that the mustard plant demonstrates that "Though the dominion appeared small like a seed during Jesus' ministry, it would inexorably grow into something large and firmly rooted, which some would find shelter in and others would find obnoxious and try to root out".

Knowledge gathered from the explanations above will make us to understand that when this parable was told, no one among the listeners indicated to have known this plant but the word "tree" was clearly indicated there which shows that the parable was a similitude. In trying to search the root of the wrong identification of this plant which was mentioned in the parable as tree, we discovered that people did not bother to search for a tree with the smallest seed; they did not wait patiently to see if someone (Botanist or Agriculturist) will find out any tree with such quality.

Due to the importance of mustard seeds, the naturalization of Eucalyptus in Nigeria by missionaries and the diverse beliefs surrounding them (Wilson, 1995). Therefore, there is an urgent need to differentiate the plants using morphological methods that would create a possible lead to a mustard similitude. Hence, this research aims to provide a concrete comparative description of Mustard and Eucalyptus species using morphological analysis to determine their similarities and differences

MATERIALS AND METHODS

Study area and information collection

Nigeria has 36 states and the federal capital territory. The study was conducted in higher institutions, reserved areas and catholic missions (churches, monasteries and schools) located in 19 states and Abuja (20 States).

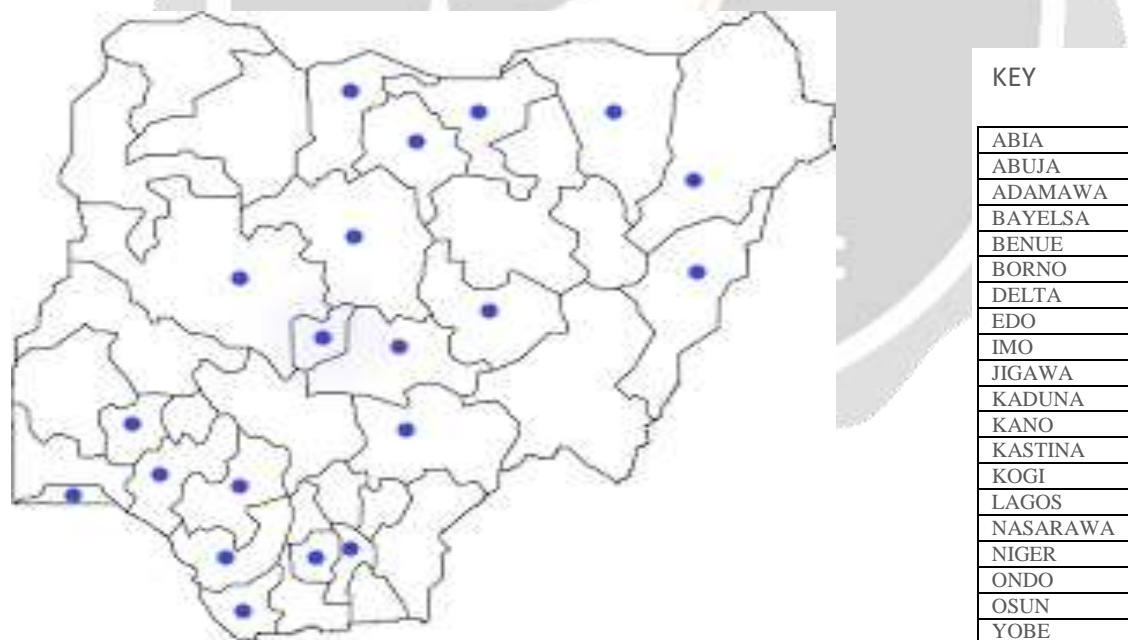


Fig. 1. Dotted Map of Study areas (States)

Extensive fieldwork was carried out between within two years of botanical trip and three months of horticultural studies, from clergy men and women, teachers and forest guards within the age of 40 and 90 years using audio recorder, camera and note taking. Oral interviews and group discussions were held with 240 respondents (50 from

Edo State and 10 from each state). They were interviewed based on age, sex, education, nationality and what they know about mustard and eucalyptus. (Amodu *et al.* 2022).

RESULTS

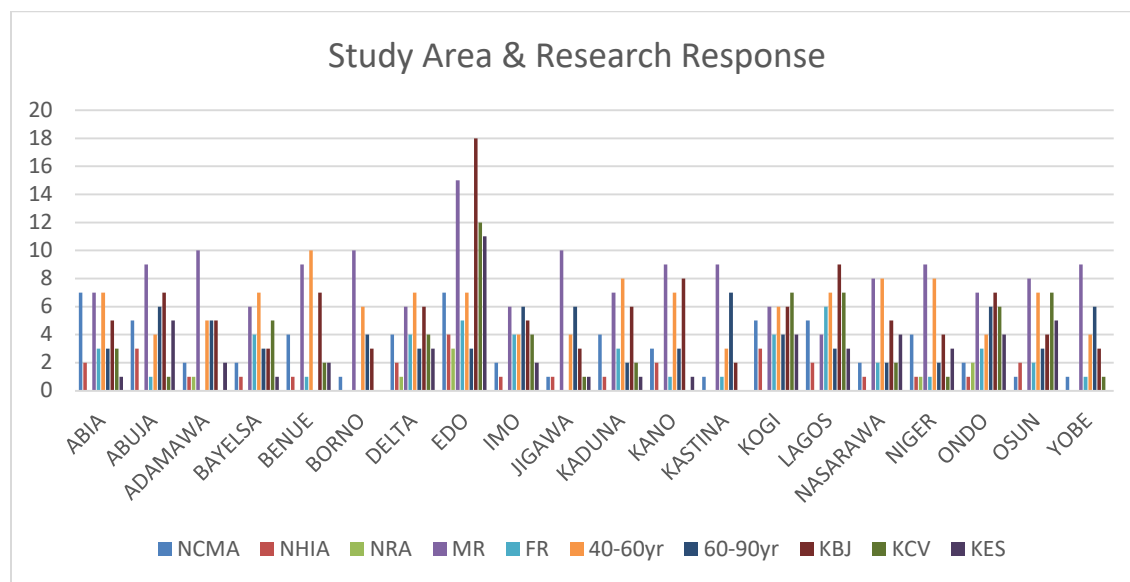


Fig 2: DEMOGRAPHIC INFORMATION OF RESPONDENT AND BOTANIC KNOWLEDGE OF THE SUBJECT MATTER

Key: NCMA (number of Catholic missions assessed) NHIA (number of higher institutions assessed) NRA (number of reserved areas assessed) MR (male respondents) FR (female respondents) KBJ (Knowledge on *Brassica juncea*) KCV (Knowledge on *Cleome viscosa*) KES (Knowledge on *Eucalyptus spp*)

TABLE 1: COMPARATIVE QUALITATIVE MORPHORLOGY OF PLANTS WITH COMMON NAME MUSTARD AND EUCALYPTUS

	<i>Brassica juncea</i> (L.) Czern.	<i>Cleome viscosa</i> L.	<i>Eucalyptus camendulensis</i>
Common name	Brown mustard	Wild mustard	River red gum
Family	Brassicaceae	Malvaceca	Myrtaceae
Habit	Forb	Forb	Tree
Stem colour	Green	Green	White
Leaf colour	Green	Green	Green
Leaf shape	Deeply parted	Palmate	Falcate
Flower type	Funnelform (solitary)	Radial (solitary)	Umbel (inflorescence)
Flower colour	yellow	yellow	White
Fruit/pod type	Long pod capsule	Long pod capsule	Hemispherical pod capsule
Seed shape	Spherical	Spherical	Oblong

Comparative Morphology of Brassica, Cleome and Eucalyptus
















	<i>Brassica juncea</i> (L.) Czern.	<i>Cleome viscosa</i> L.	<i>Eucalyptus camendulensis</i>
Seeds			
Fruit			
flower			
Leaves			
Plant			

Plate 1. Comparative morphology

TABLE 2: COMPARATIVE QUANTITATIVE MORPHORLOGY

	<i>Brassica juncea</i> (L.) Czern.	<i>Cleome viscosa</i> L.	<i>Eucalyptus camendulensis</i>
Common name	Brown mustard	Wild mustard	River red gum
Family	Brassicaceae	Malvaceca	Myrtaceae
Height (cm)	150 – 270	30 - 100	5000 - 8000
Girth (cm)	15 – 17	100 – 150	29 – 80
Leaf length (cm)	50 - 60	5 - 10	7 - 10
Leaf width (cm)	20 - 30	3 - 5	1.3 - 2
Flower length (cm)	1.5 – 3	0.8 – 1.8	0.6 – 1.4
Flower width (cm)	1 – 1.4	0.3-0.5	0.3 – 0.6
Fruit size (cm)	4 - 6	6 - 8	0.7 – 0.9
Seed size (cm)	0.1 - 0.15	0.1 – 0.13	0.05-0.08

MORPHORLOGICAL EVIDENCE OF *Brassica juncea* & *Eucalyptus camendulensis* seedlings.**Plate 2. Seeds and seedlings morphology**

Key: A = Eucalyptus seeds, B = Eucalyptus seedlings (0.9cm high after 2 weeks), C = Brassica seeds, D = Brassica seedlings (3.6cm high after 2 weeks)

DISCUSSION

From the research, 78% of the respondents were male and 22% were female, as seen in color codes in Fig. 2. Respondents within the age of 40-60 years are more than 60-90 years and the former are more knowledgeable than the later on the subject matter. Most of the information on *Eucalyptus camendulensis* and *Brassica juncea* are gotten from catholic missions as they are the only group that preserves and utilize those plants. In terms of botanic knowledge 51% of the respondents knows *Brassica juncea*, 25% knows *Cleome viscosa* and 22% knows *Eucalyptus camendulensis*.

From the qualitative morphology in table 1, the major diagnostic feature shows that *Eucalyptus* is a tree and the rest are forbs. Since *Cleome viscosa* is endemic in Nigeria, a comparative seedling analysis was conducted between *Eucalyptus camendulensis* and *Brassica juncea* which were introduced (see plate 2). Plate 1, shows the morphological description of *Eucalyptus camendulensis* with clear evidence that the plant is a tree. It also shows the morphological description of *Brassica juncea* with clear evidence that the plant is a forb stating that it completes its life cycle within 4 to 5 month which is a basic character of ephemerals.

Some authors in an attempt to explain what mustard seed looks like and how it fit into to the parable of the kingdom of God, have used some species of *Brassica* with hypothetical suggestion that that the plant was very tall in time past. An example is the diagram below



Etching by Jan Luyken illustrating the parable, from the Bowyer Bible.

The interpretation of the diagram above goes as follow, “the plant referred to here is generally considered to be black mustard (*Brassica nigra*), a large annual plant up to 9 feet (2.7 m) tall, but growing from a proverbially small seed (this smallness is also used to refer to faith in Matthew 17:20 and Luke 17:6). According to rabbinical sources, Jews did not grow the plant in gardens and this is consistent with Matthew's description of it growing in a field. Luke tells the parable with the plant in a garden instead; this is presumably recasting the story for an audience outside the Levant.” According to wikipedia, the word *parable* comes from the Greek (*parabolē*), meaning comparison, illustration and analogy. If the parable of the Good Samaritan and Prodigal son can be easily interpreted through comparative studies, then there is no need for complications in attempt to explain the direct wordings in the parable of the mustard seed.

If we should compare the words in the parable of the mustard seed to the growth of *Eucalyptus camendulensis* which grows from 1 mm seed (very tiny) to 0.9 cm high (small) seedling after 2 weeks and subsequently over 50 m high (mighty) after 20 years which comparatively described the growth of the kingdom of God from a small beginnings to the mighty size of the cosmos and heavenly bodies, if words should go for wards and evidence stands as proof in parables with the form of a similitude, *Eucalyptus camendulensis* or other species of *Eucalyptus* should replace *Brassica* as mustard on the contest of explaining the parable. *Eucalyptus camendulensis* are commonly found in older missionary establishment (monasteries and catholic churches) in Nigeria though the connection between the plant (*Eucalyptus*) and Christianity has not been well established.

This research begs for questions such as why was Eucalyptus introduced to Nigeria; why is it concentrated in catholic mission; is there any big tree with seeds smaller than eucalyptus species; is there any misidentification associated with mustard?

REFERENCES

- Amodu E., T.B. Momoh, S.O. Otoigiakhi, A.I Iyeh, T.A. Owolabi, K.C. Ezenwa, E.O. Olayioye, O.C. Iyoriobhe, O.F. Aferuan 2020.** Ethnobotany and Ethnopharmacology of the Igala kingdom in Kogi East, Nigeria. *Taiwania* 65(2): 199 – 208.
- Ben Witherington 2001.** The Gospel of Mark: A socio-rhetorical commentary, *Eerdmans*, Pp. 487.
- Brooker M.I.H. and D.A. Kleinig 1990.** Field Guide to Eucalypts. 1 South-eastern Australia. Sydney: Inkata Press.
- Henry GL and S Robert 1940.** A Greek-English Lexicon. Revised and augmented throughout by Sir Henry Stuart Jones with the assistance of Roderick McKenzie. Oxford. Clarendon Press.
- Hyde MA, Wursten BT, Ballings P, Coates PM. 2018.** *Flora of Mozambique: Species information: individual images: Brassica juncea.* https://www.mozambiqueflora.com/speciesdata/image-display.php?species_id=124170&image_id=7, retrieved 17 July 2018.
- Madeleine IB, 1980.** From The Parables. Michael Glazier, Inc. Wilmington, DE
- Osawaru M.E., M.C. Ogwu, A.O. Chime, A.R. Amorighoye 2012a.** Morphological evaluation and protein profiling of three accessions of Nigeria Corchorus Linn. Species. *Bayero J Pure Appl Sci* 5(1):26–32
- Wilson N. 1995.** The Flooded Gum Trees: Land Use and Management of River Red Gums in New South Wales. Sydney: Nature Conservation Council of New South Wales.