



## BARK MORPHOLOGY AS A TOOL TO IDENTIFY THE TREES

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### ABSTRACT

*In the present study, 35 trees inside the Shrimathi Devkunvar Nanalal Bhatt Vaishnav college campus were studied for their bark morphological characters. The studies reveals that 31 trees have rough bark surface and 4 have smooth bark surface. Twenty four trees showed black coloured bark, 6 brown, one pale white, one sandal and 3 have green colour bark. The fissuring type showed 21 have fissured type of bark, and 10 have non- fissured type of bark. After exfoliation of the bark twenty-three trees had thick chunks and twelve had thin flakes. After exfoliation, twenty seven trees showed brown coloured bark, five pale white in colour, one black, one orange and one pale green in colour. The texture of the bark is fibrous in 26 trees and in 9 trees it is granular. The minimum thickness of the bark is 0.1cm and the maximum is 1cm. A dichotomous key is provided to identify the plants using bark characters. This study shows that bark morphology plays a key role in the identification of the trees.*

**KEY WORDS:** *Bark, Vaishnav College, chunks, dichotomous key, exfoliation, fissures, flakes*

### INTRODUCTION

The morphological traits of plants form the fundamental basis for taxonomy, extensively utilized in developing classification systems, diagnostic keys, and plant identification. Trees dominate much of the Earth's surface. Their trunk consists of inner wood surrounded by outer bark. Bark plays a crucial role in identifying trees and serves various practical purposes. Trees can be distinguished based on the morphological characteristics of their bark. However, the systematic study of bark morphology has often been overlooked. Bark surface patterns are commonly disregarded as too inconsistent for rigorous study, and a comprehensive analysis has been lacking. There have been limited efforts to correlate these surface patterns with internal tree structure.



Bark encompasses all tissues outside the vascular cambium and is a non-technical term (Chattaway, 1959). It covers the wood and comprises both the inner bark and the outer bark. The inner bark, which remains living in older stems, includes the innermost layer of the periderm. The outer bark in mature stems consists of dead tissue on the surface of the stem, along with parts of the inner periderm and all tissues outside the periderm. The outer bark of trees is also known as the rhytidome (Esau, 1950).

The bark components make up the inner living and the outer dead bark. The outer bark is acted on by external weathering processes and tangential strain to produce the fissures and ridges of the surface. The periderm and weathering processes control the sloughing of the bark and hence also its surface texture and colour. The surface pattern of the bark is a visual summation of the surface configurations, the sloughing pattern, the texture and the colour. The slash appearance is oblique and it is a visual summation of the inner and outer bark (Whitmore, 1962 c). Barks are recognized in the forest from the subjective, unanalysed appearance of surface pattern and slash. These can now be analysed into objective constituent features themselves dependent on the bark tissues

For this study, we selected the campus of Shrimathi Devkunvar Nanalal Bhatt Vaishnav College as our research site. We observed thirty-five different tree species across various genera on the campus. We identified them primarily through their leaves and flowers. Our objective was to establish a method to distinguish these trees based solely on bark characteristics. By employing standard techniques, we thoroughly examined bark morphology and devised a key to facilitate tree identification.

## **MATERIALS AND METHODS**

The study focused on analyzing the bark surface patterns of live trees within the Shrimathi Devkunvar Nanalal Bhatt Vaishnav College campus. Thirty-five trees from both dicotyledons and monocotyledons were gathered and identified following the classifications by Gamble (1957) and Livingstone (1924). Bark characteristics were systematically documented using established terminology (Whitmore, 1960; Wood, 1952), and photographs of the trees and their bark were captured. A key was developed specifically to identify these 35 trees based on their bark characteristics.



## RESULTS AND DISCUSSION

Thirty-five trees seen inside the Shrimathi Devkunvar Nanalal Bhatt Vaishnav College campus was studied for their bark morphological characters. The characters are listed below. A comparative account of all characters of 35 trees is provided in Table - 1.

1. *Acacia auriculiformis* A. Cunn. ex. Benth., belonging to the Mimosaceae family, is known as the Pencil tree or Kathisavukku in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. When the bark exfoliates, it peels off in thick chunks. The inner bark is light brownish-red with a fibrous texture, approximately 1 cm thick.

2. *Azadiracta indica* A. Juss., a member of the Meliaceae family, is known in Tamil as Veppa Maram and commonly referred to as the Neem Tree. The bark surface is rough and black in color, deeply fissured with a vertical pattern. When the bark exfoliates, it reveals thick chunks. The inner bark is light brown with a fibrous texture, approximately 0.3 cm thick.

3. *Bauhinia racemosa* Lam., a member of the Caesalpiniaceae family, is known as Kokkumanthaarai in Tamil. The bark surface appears rough with an ashy black color, and it is non-fissured with horizontal ring formations. Exfoliation of the bark reveals thin flakes. The inner bark is brown with a granular texture, approximately 0.2 cm thick.

4. *Calophyllum inophyllum* L., belonging to the Clusiaceae family, is known as Punnai maram in Tamil. The bark surface is rough and black in color, non-fissured, and when exfoliated, it reveals thin flakes. The inner bark is brown with a fibrous texture, approximately 0.2 cm thick.

5. *Carica papaya* L., a member of the Caricaceae family, is known as Pappali maram in Tamil. The bark surface is rough and pale white in color, non-fissured, and exfoliates to reveal thin flakes. The inner bark is light brown with a fibrous texture, approximately 0.1 cm thick.

6. *Caryota urens* L., belonging to the Arecaceae family, is known as Koonthalpanai in Tamil. The bark surface is smooth and black in color, non-fissured, and exfoliates to reveal thin flakes. The inner bark is brown with a fibrous texture, approximately 0.3 cm t

7. *Cassia fistula* L., a member of the Caesalpiniaceae family, is known as Sarakkondrai in Tamil. The bark surface is rough and pale white in color, non-fissured, and exfoliates to reveal thin flakes. The inner bark is brown with a fibrous texture, approximately 0.3 cm thick.

8. *Celastrus paniculatus* Willd., belonging to the family Cordiaceae, is known as MookkuchaliPazham in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. When the bark exfoliates, it reveals thick chunks. The inner bark is brown with a fibrous texture, approximately 0.7 cm thick.



9. *Cocos nucifera* L., belonging to the Arecaceae family, is known as Thennai maram in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. Exfoliation of the bark reveals thick chunks. The inner bark is brown with a fibrous texture, approximately 0.1 cm thick.

10. *Cordia sebestena* L., a member of the Cordiaceae family, is known as Achi Naruvili in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. When the bark exfoliates, it reveals thick chunks. The inner bark is light brown with a fibrous texture, approximately 0.7 cm thick.

11. *Delonix regia* (Boj. Ex Hook.) Rafin., belonging to the Caesalpiniaceae family, is known as Neruppukonari in Tamil. The bark surface is rough and black in color, non-fissured, and when it exfoliates, it reveals thick chunks. The inner bark is brown with a granular texture, approximately 0.4 cm thick.

12. *Erythrina variegata* L., a member of the Fabaceae family, is known as Kalyanamurungai in Tamil. The bark surface is rough and green in color, non-fissured, and exfoliates to reveal thin flakes. The inner bark is brown with a fibrous texture, approximately 0.1 cm thick.

13. *Eucalyptus tereticornis* Sm., belonging to the family Myrtaceae, is known as Thyla maram in Tamil. The bark surface is smooth and pale green with an ash hue, non-fissured, and exfoliates in thin flakes. The inner bark is pale green with a fibrous texture, approximately 0.2 cm thick.

14. *Ficus racemosa* L., a member of the Moraceae family, is known as Atthi maram in Tamil. The bark surface is rough and pale green in color, deeply fissured with a vertical pattern. When the bark exfoliates, it reveals thick chunks. The inner bark is pale white with a fibrous texture, approximately 0.9 cm thick.

15. *Ficus religiosa* L., belonging to the Moraceae family, is known as Arasa Maram in Tamil. The bark surface is rough and reddish-brown in color, non-fissured, and exfoliates to reveal thick chunks. The inner bark is dark brown with a fibrous texture, approximately 0.4 cm thick.

16. *Guazuma ulmifolia* Lam., a member of the Sterculiaceae family, is known as Then maram or Tubakkimaram in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. When the bark exfoliates, it reveals thick chunks. The inner bark is brown with a fibrous texture, approximately 0.2 cm thick.

17. *Lannea coromandelica* (Houtt.) Merr., belonging to the Anacardiaceae family, is known as Uthya Maram in Tamil. The bark surface is rough and sandal-colored, non-fissured, and exfoliates in thin flakes. The inner bark is brown with a fibrous texture, approximately 0.2 cm thick.



18. *Mangifera indica* L., a member of the Anacardiaceae family, is known as Maa Maram in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. When the bark exfoliates, it reveals thick chunks. The inner bark is brown with a fibrous texture, approximately 0.4 cm thick.

19. *Millingtonia hortensis* L., belonging to the Bignoniaceae family, is known as Mara Malli in Tamil. The bark surface is rough and pale greenish-brown in color, shallowly fissured with a vertical pattern. When the bark exfoliates, it shows thick chunks. The inner bark is pale brown with a granular texture, approximately 0.5 cm thick

20. *Morinda pubescens* Smith in Rees, a member of the Rubiaceae family, is known as Nuna in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. Exfoliation of the bark reveals thick chunks. The inner bark is pale white with pink hues and has a granular texture, approximately 0.8 cm thick.

21. *Peltophorum pterocarpum* (DC.) Baker ex. Heyne, belonging to the Caesalpiniaceae family, is known as Iyal Vaagai in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. Upon exfoliation, the bark reveals thick chunks. The inner bark is black with a granular texture, approximately 0.7 cm thick.

22. *Phoenix sylvestris* (L.) Roxb., belonging to the Arecaceae family, is known as Inthupanai, Kattinchu, and Echamaram in Tamil. The bark surface is rough and brownish-black in color, deeply fissured with a horizontal pattern. Upon exfoliation, the bark displays thick chunks. The inner bark is brown with a fibrous texture, approximately 0.7 cm thick.

23. *Phyllanthus emblica* L., a member of the Euphorbiaceae family, is known as Nelli maram in Tamil. The bark surface is rough and brown in color, shallowly fissured with a vertical pattern. Upon exfoliation, the bark exhibits thin flakes. The inner bark is brown with a fibrous texture, approximately 0.2 cm thick.

24. *Polyalthia longifolia* (Sonner) Thw., belonging to the Annonaceae family, is known as Asoka in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. Upon exfoliation, the bark reveals thick chunks. The inner bark is brown with a fibrous texture, approximately 0.5 cm thick.

25. *Pongamia pinnata* (L.) Pierre, a member of the Fabaceae family, is known as Pungai in Tamil. The bark surface is rough and black in color, non-fissured, and exfoliates to reveal thin flakes. The inner bark is pale white with a fibrous texture.



26. *Psidium guajava* L., belonging to the Myrtaceae family, is known as Koyyamaram in Tamil. The bark surface is smooth and ash-colored with pale orange hues, non-fissured, and exfoliates in thin flakes. The inner bark is orange with a fibrous texture, approximately 0.2 cm thick.

27. *Samanea saman* (Jacq.) Merr., belonging to the Mimosaceae family, is known as Thoongumoonchi Maram in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. Upon exfoliation, the bark reveals thick chunks. The inner bark is pale white with a fibrous texture, approximately 1 cm thick.

28. *Spathodea campanulata* Beauv., belonging to the Bignoniaceae family, is known as Patadi in Tamil. The bark surface is rough and pale black in color, shallowly fissured with a vertical pattern. Upon exfoliation, the bark displays thick chunks. The inner bark is pale white with a granular texture, approximately 0.7 cm thick.

29. *Sterculia foetida* L., belonging to the Sterculiaceae family, is known as Peenari in Tamil. The bark surface is rough and black in color, non-fissured, and exfoliates to reveal thick chunks. The inner bark is brown with a granular texture, approximately 0.5 cm thick.

30. *Syzygium cumini* (L.) Skeels, belonging to the Myrtaceae family, is known as Naaval maram in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. Upon exfoliation, the bark reveals thick chunks. The inner bark is brown with a granular texture, approximately 0.8 cm thick.

31. *Tamarindus indica* L., belonging to the Caesalpiniaceae family, is known as Puliya Maram in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. Upon exfoliation, the bark displays thick chunks. The inner bark is brown with a granular texture, approximately 0.5 cm thick.

32. *Tectona grandis* L., belonging to the Verbenaceae family, is known as Thekku in Tamil. The bark surface is rough and pale black with an ash hue, shallowly fissured in a vertical pattern. Upon exfoliation, the bark exhibits thin flakes. The inner bark is brown with a fibrous texture, approximately 0.3 cm thick.

33. *Terminalia catappa* L., belonging to the Combretaceae family, is known as Badam maram in Tamil. The bark surface is rough and brown in color, non-fissured, with a horizontal ring formation. Upon exfoliation, the bark exhibits thin flakes. The inner bark is brown with a fibrous texture, approximately 0.2 cm thick.

34. *Thespesia populnea* (L.) Soland. ex Correa, belonging to the Malvaceae family, is known as Poovarasu maram in Tamil. The bark surface is rough and black in color, deeply fissured with a

vertical pattern. Upon exfoliation, the bark reveals thick chunks. The inner bark is brown with a fibrous texture, approximately 0.6 cm thick.

35. *Ziziphus xyloperus* (Retz.) Willd., belonging to the Rhamnaceae family, is known as Elanthai in Tamil. The bark surface is rough and black in color, deeply fissured with a vertical pattern. Upon exfoliation, the bark displays thick chunks. The inner bark is brown with a fibrous texture, approximately 0.8 cm thick.

### HABIT AND BARK OF THIRTY FIVE TREES STUDIED

*Acacia auriculiformis*



*Azadirachta indica*



*Bauhinia racemosa*



*Calophyllum inophyllum*



*Carica papaya*



*Caryota urens*



*Cassia fistula*



*Celastrus paniculatus*



*Cordia sebestena*



*Cocos nucifera*



*Delonix regia*



*Erythrina variegata*



*Eucalyptus tereticornis*



*Ficus racemosa*



*Ficus religiosa*



*Guazuma ulimifolia*





*Lannea coromandelica*



*Mangifera indica*



*Millingtonia hortensis*



*Morinda pubescens*

*Peltophoram pterocarpum*



*Phoenix sylvestris*



*Phyllanthus emblica*



*Polyalthia longifolia*



*Pongamia pinnata*



*Psidium guajava*



*Samanea saman*



*Spathodea campanulata*



*Sterculia foetida*



*Syzygium cumini*

*Tamarindus indica*



*Tectona grandis*

*Thespesia populnea*



*Terminalia catappa*

*Ziziphus xylophorum*





BINOMIAL NAME	TEXTURE	COLOUR	FISSURING PATTERNS-	DIRECTION	DEPTH OF FISSURE	EXFOLIATION	COLOUR-AFTER EXFOLIATION	TEXTURE	THICKNESS OF BARK
<i>Acacia auriculiformis</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brownish red	Fibrous	1 cm
<i>Azadirachta indica</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brown	Fibrous	0.3 cm
<i>Bauhinia racemosa</i>	Rough	Ash with black	Non-fissured	-	-	Thin flakes	Brown	Granular	0.2cm
<i>Calophyllum inophyllum</i>	Rough	Black	Non-fissured	-	-	Thin flakes	Brown	Fibrous	0.2cm
<i>Carca papaya</i>	Rough	Pale white	Non-fissured	-	-	Thin flakes	Light brown	Fibrous	0.1cm
<i>Caryota uerns</i>	Smooth	Black	Non-fissured	-	-	Thin flakes	Brown	Fibrous	0.3cm
<i>Cassia fistula</i>	Rough	Pale white	Non-fissured	-	-	Thin flakes	Brown	Fibrous	0.3cm
<i>Celastrus paniculatus</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brown	Fibrous	0.7 cm
<i>Cocos nucifera</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brown	Fibrous	0.1cm
<i>Cordia sebestena</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Light brown	Fibrous	0.7cm
<i>Delonix regia</i>	Rough	Black	Non-fissured	-	-	Thick chunks	Brown	Granular	0.4cm
<i>Erythina variegata</i>	Rough	Green	Non-fissured	-	-	Thin flakes	Brown	Fibrous	0.1cm
<i>Eucalyptus tereticornis</i>	Smooth	Ash in pale green	Non-fissured	-	-	Thin flakes	Pale green	Fibrous	0.2cm
<i>Ficus racemose</i>	Rough	Pale green	Fissured	Vertical	Deep	Thick chunks	Pale white	Fibrous	0.9cm
<i>Ficus religiosa</i>	Rough	Brown in red	Non-fissured	-	-	Thick chunks	Dark brown	Fibrous	0.4cm
<i>Guazuma ulimifolia</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brown	Fibrous	0.2cm
<i>Lannea coromandelica</i>	Rough	sandal	Non-fissured	-	-	Thin flakes	Brown	Fibrous	0.2cm
<i>Mangifera indica</i>	Rough	black	Fissured	Vertical	Deep	Thick chunks	Brown	Fibrous	0.4cm
<i>Millingtonia hortensis</i>	Rough	Pale green in brown	Fissured	Vertical	Shallow	Thick chunks	Pale brown	Granular	0.5cm
<i>Morinda pubecens</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Pale white with pink	Granular	0.8cm
<i>Peltophorum pterocarpum</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Black	Granular	0.7cm
<i>Phoenix sylvestris</i>	Rough	Brownish black	Fissured	Horizontal	Deep	Thick chunks	Brown	Fibrous	0.7cm
<i>Phyllanthus emblica</i>	Rough	Brown	Fissured	Vertical	Shallow	Thin flakes	Brown	Fibrous	0.2cm
<i>Polyalthia longifolia</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brown	Fibrous	0.5cm
<i>Pongamia pinnata</i>	Rough	Black	Non-fissured	-	-	Thin flakes	Pale white	Fibrous	0.8cm
<i>Psidium guajava</i>	Smooth	Ash in pale orange	Non-fissured	-	-	Thin flakes	Orange	Fibrous	0.2cm
<i>Samanea saman</i>	Rough	Black	Fissured	Vertical	Deep	Thick	Pale white	Fibrous	1cm



						chunks			
<i>Spathodea campanulata</i>	Rough	Pale black	Fissured	Vertical	Shallow	Thick chunks	Pale white	Granular	0.7cm
<i>Sterculia foetida</i>	Rough	Black	Non-fissured	-	-	Thick chunks	Brown	Granular	0.5cm
<i>Syzygium cumini</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Light brown	Granular	0.8cm
<i>Tamarindus indica</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brown	Granular	0.5cm
<i>Tectona grandis</i>	Rough	Pale black in ash	Fissured	Vertical	Shallow	Thin flakes	Brown	Fibrous	0.3cm
<i>Terminalia catappa</i>	Rough	Brown	Non-fissured	-	-	Thin flakes	Brown	Fibrous	0.2cm
<i>Thespesia populnea</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brown	Fibrous	0.6cm
<i>Ziziphus xyloperus</i>	Rough	Black	Fissured	Vertical	Deep	Thick chunks	Brown	Fibrous	0.8cm

When observing a tree, the trunk's most noticeable feature is the texture of its bark. In our current study, bark texture was categorized into two types: rough and smooth. Among the 35 trees examined, namely *Carica papaya*, *Caryota urens*, *Eucalyptus tereticornis*, and *Psidium guajava*, four exhibited a smooth bark texture. These trees showed no fissuring pattern. The remaining 31 trees had rough bark textures.

The coloration of bark is a significant characteristic among the trees studied. Among the 35 trees observed, the majority displayed either black or brown bark. Specifically, 24 trees exhibited black bark. Brown bark was observed in *Ficus religiosa*, *Millingtonia hortensis*, *Phoenix sylvestris*, *Phyllanthus emblica* and *Terminalia catappa*. *Carica papaya* and *Cassia fistula* displayed pale white bark, while *Erythrina variegata*, *Eucalyptus tereticornis* and *Ficus racemosa* exhibited green bark. *Lannea coromandelica* bark had a sandalwood-like coloration and *Psidium guajava* displayed a pale orange hue. These trees showcase a variety of distinct bark colors, including green, orange, and sandalwood.

Out of the 31 trees with rough bark surfaces, 21 exhibited a fissured type of bark, while 10 showed no fissures. Although these barks were rough, they lacked visible fissures. The fissuring pattern ran vertically for most plants, except for *Phoenix sylvestris*, which displayed horizontal fissures. The fissures were notably deep in nearly all trees, with the exception of *Phyllanthus emblica*, *Spathodea campanulata*, and *Tectona grandis*.

After the bark exfoliated, thick flakes were observed in 23 trees. The color of the exfoliated bark was also documented: 27 trees had brown bark, Pale white bark was found in 5 species: *Ficus racemosa*, *Morinda pubescens*, *Pongamia pinnata*, *Samanea saman* and *Spathodea campanulate*. *Eucalyptus*



*tereticornis* exhibited pale green bark, *Psidium guajava* displayed orange bark and black bark was observed in *Peltophorum pterocarpum*.

Following exfoliation, bark texture was classified into two categories: fibrous and granular. Fibrous texture was noted 26 trees, while the remaining 9 exhibited a granular texture. Bark thickness varied from 1 cm to 0.1 cm across the samples. *Samanea saman* and *Acacia auriculiformis* featured thick bark, contrasting with *Carica papaya*, *Cocos nucifera*, and *Erythrina variegata*, which displayed notably thin bark. A dichotomous key was developed using these observed characteristics.

**KEY PREPARATION**

1. Bark texture smooth:

2. Bark thickness 0.2 cm:

3. Bark colour after exfoliation pale green .....*Eucalyptus tereticornis*

3. Bark colour after exfoliation pale orange .....*Psidium guajava*

2. Bark thickness 0.3 cm: .....*Caryotaurens*

1. Bark texture rough:

4. Bark fissured;

5. Bark colour other than black:

6. Direction of fissure horizontal .....*Phoenix sylvestris*

6. Direction of fissure vertical:

7. Depth of fissure deep .....*Ficus racemosa*

7. Depth of fissure shallow:

8. Bark after exfoliation show thick chunks .....*Millingtonia hortensis*

8. Bark after exfoliation show thin flakes .....*Phyllanthus emblica*

5. Bark black in colour:

9. Depth of fissure shallow:

10. Bark after exfoliation the texture is granular .....*Spathodea campanulata*

10. Bark after exfoliation the texture is fibrous .....*Tectona grandis*

9. Depth of fissure deep:

11. After exfoliation the texture is granular:

12. Thickness of bark is 0.7cm and less than 0.7 cm :

13. Colour of bark after exfoliation black .....*Peltophoram pterocarpum*

13. Colour of bark after exfoliation brown .....*Tamarindus indica*



12. Thickness of bark greater than 0.8 cm:
14. Colour of bark after exfoliation pale white .....*Morinda pubecens*
14. Colour of bark after exfoliation light brown .....*Syzygium cumini*
11. After exfoliation the texture is fibrous:
15. Thickness of bark 1cm;
16. Colour of bark after exfoliation pale white .....*Samanea saman*
16. Colour of bark after exfoliation brown red .....*Acacia auriculiformis*
15. Thickness of bark below 1cm;
17. Colour of bark after exfoliation Light brown .....*Cordia sebestena*
17. Colour of bark after exfoliation Brown:
18. Bark thickness below 0.5cm:
19. Bark thickness below 0.3 cm:
20. Bark thickness 0.1cm. ....*Cocos nucifera*
20. Bark thickness 0.2 cm .....*Guazuma ulimifolia*
19. Bark thickness 0.3 cm and above 0.3cm:
21. Bark thickness 0.3cm .....*Azadirachta indica*
21. Bark thickness 0.4 cm .....*Mangifera indica*
18. Bark thickness above 0.5cm:
22. Bark thickness 0.5 – 0.6 cm:
23. Bark thickness 0.6 cm .....*Thespesia populnea*
23. Bark thickness 0.5 cm .....*Polyalthia longifolia*
22. Bark thickness 0.7 – 0.8 cm:
24. Bark thickness 0.8 cm .....*Zizyphus xylopyrus*
24. Bark thickness 0.7 cm .....*Celastrus paniculatus*
4. Bark non-fissured:
25. Bark colour black:
26. Bark after exfoliation show thick chunks:
27. Bark thickness 0.4cm .....*Delonix regia*
27. Bark thickness 0.5cm .....*Sterculia foetida*
26. Bark after exfoliation show thin flakes:
28. Bark thickness 0.2 cm:



29. After exfoliation texture fibrous	..... <i>Calophyllum inophyllum</i>
29. After exfoliation texture granular	..... <i>Bauhinia racemosa</i>
28. Bark thickness above 0.8 cm	..... <i>Pongamia pinnata</i>
25. Bark colour other than black:	
30. Bark after exfoliation show thick chunks	..... <i>Ficus religiosa</i>
30. Bark after exfoliation show thin flakes;	
31. Bark colour brown	..... <i>Terminalia catappa</i>
31. Bark colour other than brown:	
32. Bark thickness 0.1 cm:	
33. Bark colour pale Green	..... <i>Erythina variegata</i>
33. Bark colour pale white	..... <i>Carica papaya</i>
32. Bark thickness 0.2cm and above:	
34. Bark colour pale white	..... <i>Cassia fistula</i>
34. Bark colour sandal	..... <i>Lannea coromandelica</i>

Utilizing bark characteristics as a simple and accessible method for identifying trees, especially with the assistance of a key, proves to be practical and valuable across disciplines such as forestry, botany, and potentially forensic science. This study focuses on utilizing bark characteristics as a reliable means of tree identification. It facilitates clear identification of trees when only a bark sample is available, without requiring complex procedures or expensive instruments. The provided key simplifies the process of tree identification, making this information beneficial even in forensic investigations.

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