

VAN RHEEDE'S HORTUS MALABARICUS ENGLISH EDITION

With Annotations and Modern Botanical Nomenclature

By
K.S. MANILAL

VOLUME - 4



UNIVERSITY OF KERALA



Hendrik Adriaan Van Rhee de (1636 – 1691) was the compiler and promoter of *Hortus Malabaricus*, written in Latin and published from Amsterdam in 12 volumes during 1678-1693. He was born in a noble family in Utrecht, Netherlands and came to India as a soldier in the army of the Dutch East India Company. Rhee de was in Malabar (the present federal state of Kerala) during 1667-1677, first as the Captain, then as the Commodore and finally as the Dutch Governor of Cochin. His fame as an eminent soldier and a shrewd administrator is overshadowed by his contribution to the botanical science through the compilation of the monumental work *Hortus Malabaricus*. This work was the result of about 30 years of compiling and editing by a team of specialists working under the guidance of Rhee de.

VAN RHEEDE'S
HORTUS MALABARICUS
ENGLISH EDITION

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HORTUS MALABARICUS

(MALABAR GARDEN)

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MODERN BOTANICAL NOMENCLATURE

by
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Emeritus Professor

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PART FOUR

HORTI
INDICI
MALABARICI

ON
FRUIT BEARING TREES
OF THE KINGDOM OF MALABAR.

*Described in Latin, Malabaric, Arabic and Brahmanic characters and names
together with the Flowers, Fruits and Seeds most skillfully represented
by sketches of natural size and exhibited as if live.
Added to this there is accurate description of these regarding their colour, smell, taste,
practical value and chiefly their medicinal powers that are exactly described.*

Adorned by
The Most Noble and Generous D.D.

HENRY VAN REEDE, TOT DRAAKESTEIN

Chief Ruler of Meydrecht, at one time Governor of Malabar Kingdom, Extraordinary Senator of the
Supreme Council among the Indian Belgians Known by the name of the illustrious nominee of the
Equestrian Order of the most powerful Ultrajectine Province assigned,

and

JOHANNEM MUNNICKS, M.D.

of the same faculty of Anatomy and Botany in Ultrajectine Academy
Professor & Reip. Ultraj. Poliatrum

With Notes & Illustrated Commentaries
JOHN COMMELIN



Printed at Amsterdam
With the expenses met by the widow of John van Someren,
Heir of John van Dyck & Henry & widow of Theodore Boom.
In the year 1683.

**MOST GENEROUS AND NOBLE
LORD
D. HENRICUS JACOBAS
OF TUYLL
OF SEROSKERCKEN**

Liber Baron of the town of Vrelandia, Lord having jurisdiction of this town of Toparcha in Zuylen, Sweferengh, Westbroeck, Cookengen which comes under Lochorstianae, Neederhorst, Overmeer, Horstweert, Nichtevecht: To the most influential political leaders from equestrian rank also to Prescribed Assembly of Ordinary Delegates.

My dear Cousin by Relation, if some one at this time attempts to merit the favour of any one, he will have to be careful, he must hesitate and doubt before proceeding, especially when he is very diligent, for he has to face a sophisticated generation hard to please and the subject he is dealing with is very precious as well as widely spread and common, so that he can hardly do anything unless it is new, rare and hardly reaching his ears; such things people looking forward to are contained in the Fourth Part of HORTUS MALABARICUS, I think. Keeping in mind your generosity I have made up my mind to dedicate this Fourth Volume to you in the spirit of gratitude and friendship. I feel there is a necessity on our part to do it. It is above all the memory of the strenuous study required to furnish the Volume thoroughly that urges me to make this dedication. In the midst of the heavy burden of the ministerial duties of the Republic by way of relaxation of the mind I may offer you herbs and plants gathered from the remotest corners, the fruit of our efforts undertaken in our leisure hours. It is refreshing for the eyes to observe the collection and contemplate how vast, admirable and wonderful are the works of the Creator, how ignorant we are of the innumerable things which are found elsewhere on the globe. I shall be, then, fulfilling my vow of being chained to you for ever by this dedication.

OF YOUR NOBILITY

Most loving
**HENRY VAN REEDE
TOT DRAAKESTEIN**

PART FOUR
OF
THE MALABAR GARDENS
ON
FRUIT BEARING TREES



Mao or Mau or Mangas

FIG. 1, 2



HIS tree is called *Mange* by the Indians, *Mao* or *Mau* by the Malabaris, *Ambo* by the Brahmins, *Manga* or *Mangeira* by the Portuguese, *Manges* by the Belgians: is of great size, almost equaling the measurement of eighteen feet in thickness and forty feet in height, provided with many branches spread far and wide in all directions, which are provided with a glabrous, dark -green and shining bark, when cut drips a thick, sweet smelling, pungent and bitter liquid: wood white, soft and light, covered with a thick, rough and black bark, and this when wounded sheds in like manner a thick, viscid, clinging (sticky) exudation which finally thickens into a gummy substance in the sun.

Root thick, white, covered with a thick, purple and inside date-red bark, and also spread wide in the soil with its fibers; taste bitter, smell aromatic

Leaves adhere to branch-lets from the same pedicel in twos, threes or four together, are oblong round, thick, glabrous, exceeding a span in length and a palm in width, on the upper side shining with a dark green colour, on the lower side with lighter green colour; the mid-rib, thick, yellow, divided and

boldly standing out (bulging out) on both sides, from which run out some transverse nerves towards the apex; smell sweet, taste aromatic. The tender leaves however, arising from the tip of the branches are mostly light red.

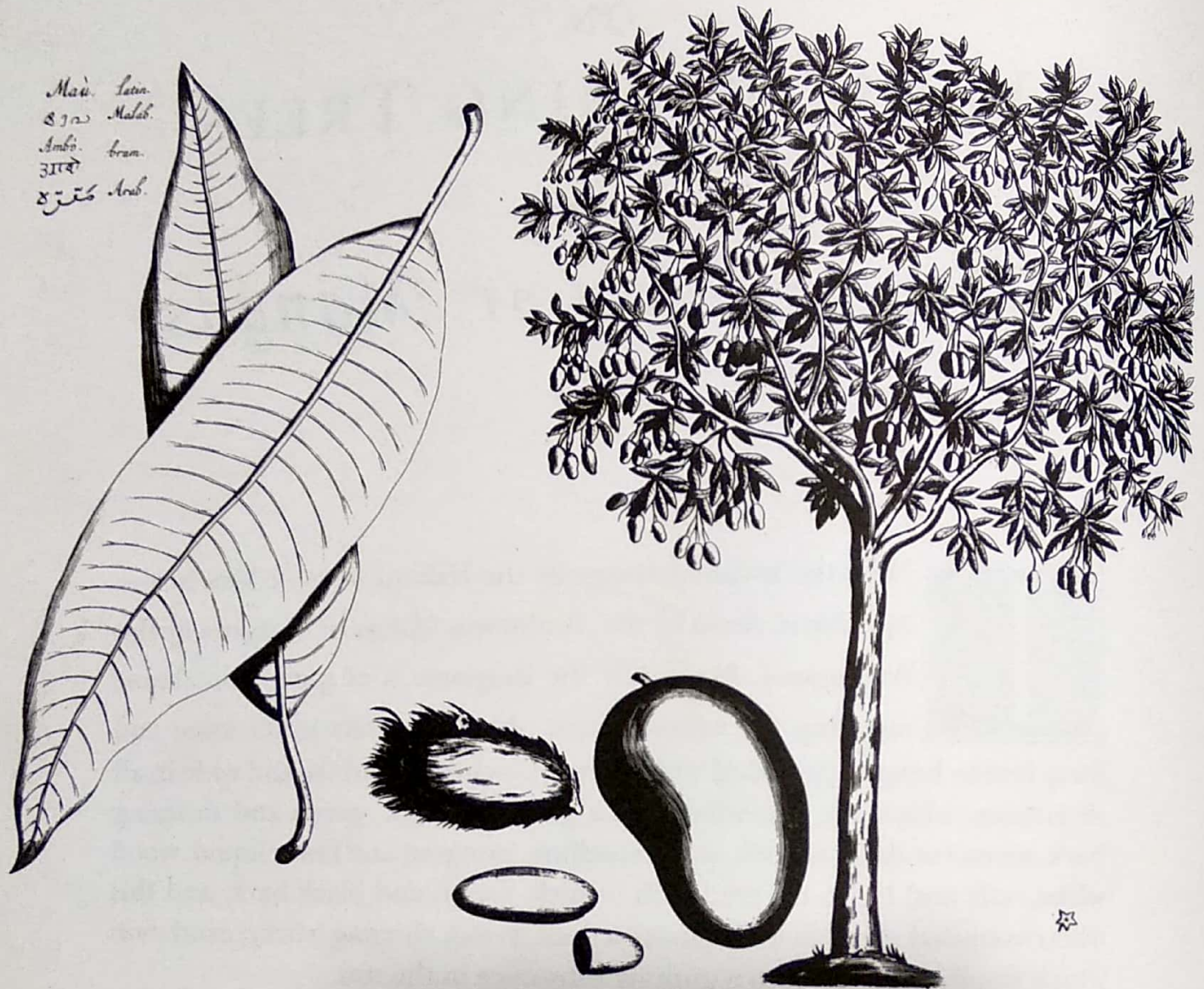


Fig. 1

Flowers adhere to the tips of branch-lets in racemes, are small, not dissimilar to the florets of grape-wine, and come forth from a green calyx divided into five flaps, are formed of five slender, acuminate white leaflets marked with a yellow spot, and furnished inside with five white fibres provided with yellow

apices and spread out in the form of a star in between the leaflets, in the middle of which arises the white style; smell sweet and honey - like, taste aromatic.

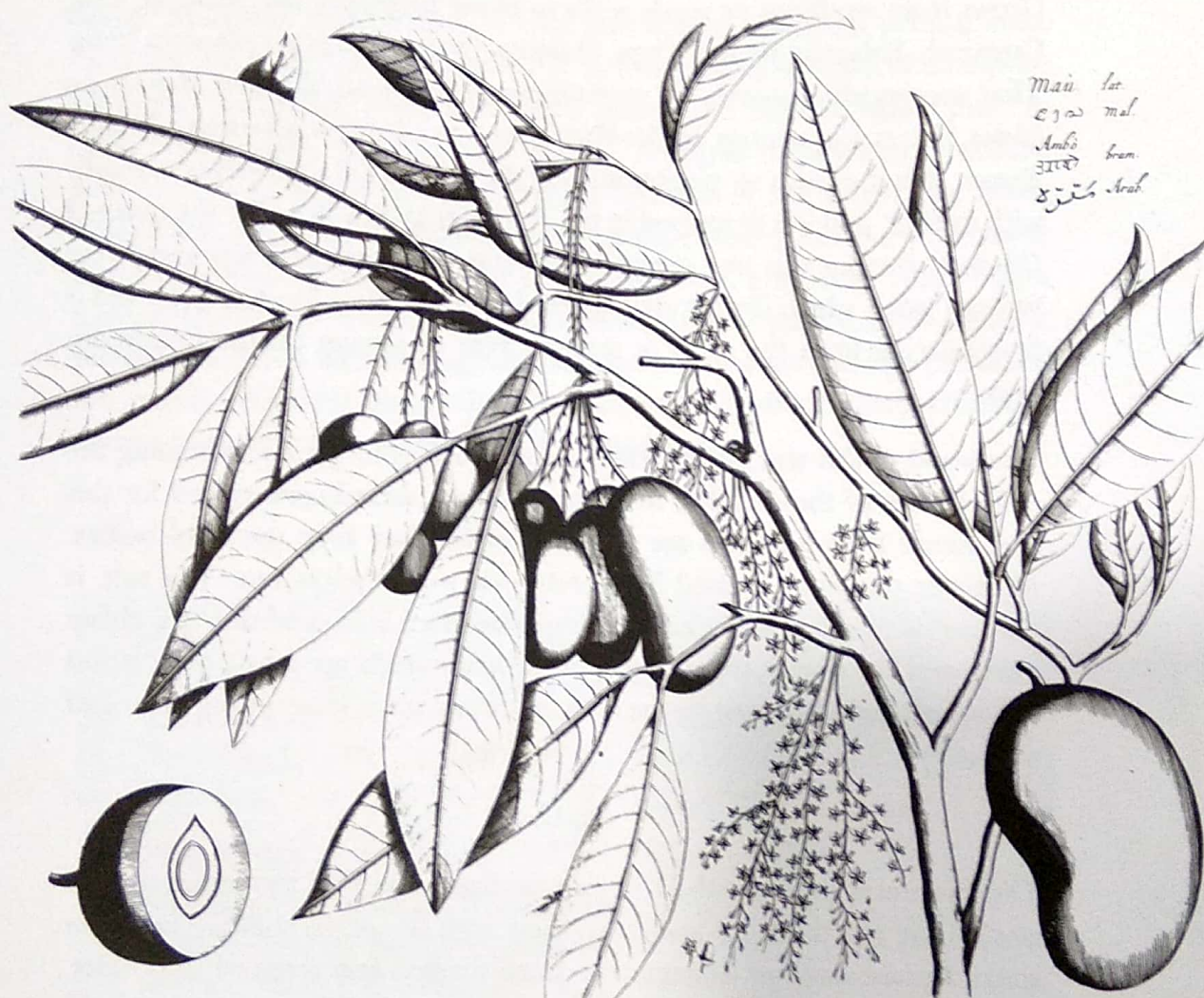


Fig. 2

Fruits oblong-round, smooth, slightly sinuate towards the side, not dissimilar to kidney shape, exceeding a goose's egg in size, glabrous, shining, first green, speckled with white dots, then green-yellow, and finally golden, filled inside with yellow and succulent flesh (not dissimilar to flesh of Persian apple or rather prune) first acidic, then acid-sweet and of pleasing taste; and furnished with a thin hairy and downy skin. Inside the flesh is contained an

oblong, solid kernel, quite similar to almond, bitter, however not displeasing to taste. Moreover there are different species of these fruits mangoes not otherwise than our apples and pears, which (species) differ mostly according to the nature and diversity of the regions.

Grows from seedlings or seeds sown in many provinces like Malabar, Goa, Gugarath, Balagate, Bengal, Pegu, Malacca, Ormuz and other places in India. That species which comes up spontaneously in forests is called *Mangas dos Matos*, that is wild mango, by the Portuguese, not *Mangas sylvestris* or *Mangas Bravas*, this indeed is so poisonous that the natives kill themselves mutually with its fruit, and it is described in the First part in Tab 39 under the name of *Odallam*. Further this tree is evergreen, and gives mature fruits every year once or twice, which (fruits) are collected in April, May, June, or July; and is fruit-bearing from the sixth or seventh year of sowing till the hundredth year.

The wood of this tree, along with sandal wood is in use for cremating the dead bodies of the gentiles, in as much as it is sacred consecrated for this rite, hence from it coffins are made, in which they keep the dead bodies. Moreover this wood is used for wood-work, nevertheless since it is soft, is obnoxious to wood-worm and rotting, wherefore it is used only for cheap work: and because of this reason, small boats which are made from it and which are called *Mansjous* by the natives, cannot resist long rotting in air and water.

(Its Uses)

The Brahmins decorate their houses on feast days with the leaves (of this tree). They rub the teeth and clean them with leaves. In chewing betel the stalks replace *Areca* or *Kaunga*, the same roasted and reduced to powder, remove warts. With tender bark of castor that is good for cough, asthma and other thoracic affections. The bark of the tree reduced to powder and given with a little 'chicken soup', admirably dissolves blood that has by chance, come out from the vessel anywhere and clotted. The juice pressed out from the bark taken with the white of the egg and with as much of *opium*, is an immediate remedy against diarrhoea, dysentery and straining stool, similarly tablets are made from the gums of the tree and flowers of paddy with the addition of a little of *opium* and *Pepper*, which (tablets) cure any kind of loose bowels. Finally, the fruits after removing the rind are eaten either without

wine or macerated in some 'generous' wine, like 'persic fruits'. They are also cooked, and cooked ones are used like apples and pears, or different kinds of food stuffs are prepared from them. Not rarely they are preserved with honey and sugar; at times (occasionally) they are pickled in *Atsjar* having been interspersed with vinegar, and brine into their flesh and with mustard and *Ginger*. Moreover these fruits are cold and humid, although people make them hot and state that much corrosion appears in the stomach of those who eat them. The nature, physicians rather make them hot and blame them to cause *Serpigo* (any spreading skin disease), *Erysipila* (inflammatory disease generally in face, marked by a bright redness of the skin), bile fever, *Phlegmones* (purulent inflammation) and scabies. And at the time when these fruits are collected, because of the excessive heat, also some who abstain from these, fall into similar diseases. Further, from the mature fruits a juice is pressed out, which, after adding salt is thickened in the sun and thus preserved for years for different uses. A flour is made from the dried kernel, from this natives know to make different kinds of food stuffs.

Mangifera indica L., Sp. Pl. 200.1753; Manilal & Sivar., Fl. Calicut 73. 1982; Meijer in Dassan., Rev. Handb. Fl. Ceylon 4: 6. 1983; Manilal, Fl. Silent Valley 67. 1988; Sasidh. & Sivar., Fl. Thrissur 122. 1996; Sivar. & Philip, Fl. Nilambur 169. 1997 [ANACARDIACEAE].

Mau Rheede, Hort. Malab. 4: 1-4, t. 1-2. 1683.

The name Mavu (mava is in Malayalam script on both t.1 and t.2) is still used as the name of the tree. Manga is the name of the fruit. The species is both wild and cultivated in Malabar.



Adamaram

FIG. 3, 4



DAMARAM or *Saros* for Malabariss, *Sibe* for Brahmins, *Pinha* for the Portuguese, *Katappes* for Belgians and also for the Javanese and Malaccis is a tall tree, and mostly with the branches divided in a decussate fashion into smaller ones, branched in all directions, so that they seem to be like wings spread out and (as can be seen in fir, pine and *panja* described in the part 3 in Tables 49, 50, 51) the branches becoming more and more slender towards the top, till it gets almost the form of a pyramid. Is with white, very hard wood, provided with a glabrous bark, (which is) ash-grey outside, reddish inside; the slender branch-lets however being green and downy.

The root ash-grey, covered with a reddish bark, odorless, insipid.

The leaves are on short, red and hairy petioles, many joined together, and spread in all directions, adhere to the branch-lets on both sides, are oblong round, shining, glabrous, almost equaling one and a half span in length, one span in width, green on the upper surface, on the lower from green to yellow and downy, with some nerves running out from the mid-rib into the sides and standing out on the lower side; taste bitter, smell nil.

The flowers very small, odorless, insipid, adhere in a racemose manner to red, hairy and slender petioles among expanded leaves, like flowers formed of five acuminate, dense leaves whitish on the inside, green on the outside, with ten slender, white stamen in the centre, provided with as many apices



Fig. 3

occupying the middle cavity and the centre of the flower, with five standing erect, among which the green, hairy style, the rudiment of the fruit itself comes out.

The fruit is oblong-round, compressed and bent (curved) in the form of an arch, very similar to almond, but bigger, covered with a rind which is first

green, glabrous and shining, then red, rough and hard; when it reaches maturity dehiscing and easily leaving the light, oblong-round stone adheres to the hard shell the white kernel, with the taste of almond expect that while chewing, unlike almond, is completely dissolved, no substance of the kernel itself remaining. This kernel, (nucleus) however consists of two white, round

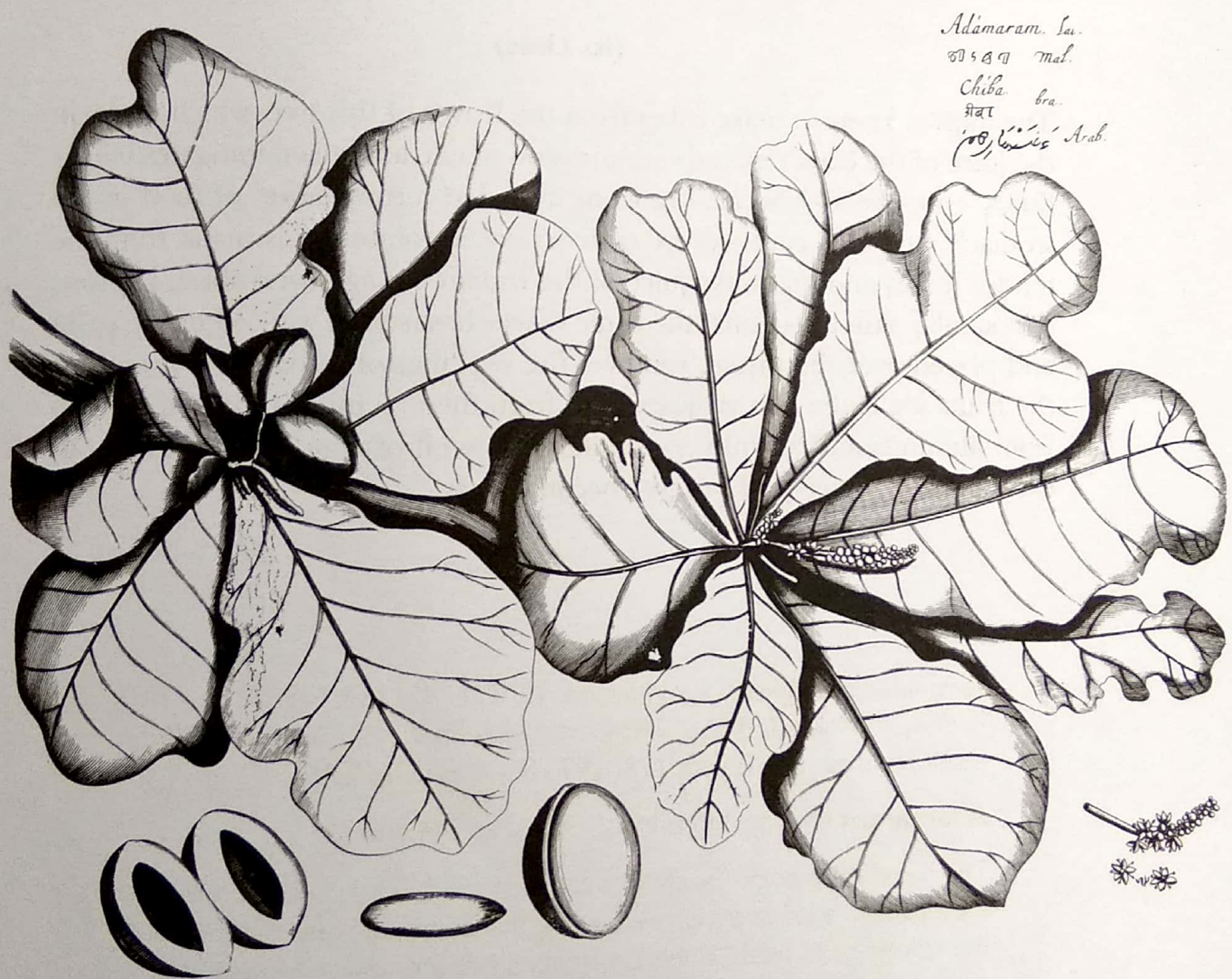


Fig. 4

and spirally folded leaves, which leave in the middle along the length a clear (visible) opening, as can be seen if the kernel is macerated in hot water for a while; for then this plication (twisting) being loosened and unbound, the 'nucleus' Tab.3, Fig.5, spreads itself into two round, white, leaflets which are

attached to a short, white, peduncle, so that the arrangement of the whole kernel (nucleus) may be clearly seen.

This tree grows in the forest of Malabar, chiefly in sandy places, and is mostly cultivated (grown) in gardens. It gives mature fruits thrice a year, and when it flowers the old leaves fall down, especially in those places where flowers arise; and remains useful (fruit-bearing) from the third to the eightieth year

(Its Uses)

The natives know to make cakes from the leaves of this tree, which they eat; the juice of the leaves mixed with infusion of rice and given mitigates bilious fluids, cures head-ache arising from impeded fermentation of food in the stomach, and also cures severe colic pains. An ointment is made from the tender leaves and the milky juice of the Indian nut against scabies, Leprosy, and similar skin affections: the same leaves besmeared with oil of the palm and placed over the throat, removes the swellings of throat. The kernels of the fruits are eaten as a delicacy, and from these, a milk is pressed out like from almonds and an oil very similar to the oil of almonds is pressed out except that it never stinks (never become stale)

Terminalia catappa L., Syst. Nat. ed. 12, 2: 674. 1767; Mant. 118. 1767; Exell in Fl. Males. 1, 4:566. 1954; Manilal & Sivar., Fl. Calicut 104. 1982; Sasidh. & Sivar., Fl. Thrissur 178. 1996 [COMBRETACEAE].

Adamaram Rheede, Hort. Malab. 4: 5-7, t. 3-4. 1683.

The name Adamaram (Malayalam script on t.3, t.5) is not in use now. Ada means bread and maram is tree, alluding that a form of bread is made out of the kernels of its seeds. Rheede mentions that the leaves are also used to make bread. Today only the kernels are used to make bread, while the leaves are used as a covering or enveloped for the bread when the same is cooked. The leaf cover itself is not eaten and is thrown away after the bread gets cooked. It is now called Nattubadam; nattu meaning local and badam meaning almond. Sometimes it is called Thallitenga, thalluka means to hit and tenga means coconut (here nut). It is widely cultivated in Malabar, mainly as a shade tree.



Panem-palka

FIG. 5.



THE tree which is called *Panam-Palka* by the Malabariss, *Ambadeki* and *Palka* by Brahmins, *Nozde moluco falso* by the Portuguese, *wilde Mannekes Noole-boon* by the Belgians, is tall, provided with a thick bark and with no dense branches; which are covered with a reddish yellow bark and filled inside with a soft core not otherwise than is seen in the elder tree; the wood is white, heavy, odorless, insipid, covered with a date-red bark, white inside, which is moreover armed with a black, slender cuticle.

The root in like manner is white, covered with an ash-grey, fragrant and slightly bitter bark.

The leaves are oblong-round, acuminate, thick, glabrous, not dissimilar to the leaves of 'golden apple' except for that appendage which the leaves of this tree lack, are attached to branch-lets by means of short and round petioles, on the upper side shining dark green colour, on the lower with lighter green colour; from that central and thick nerve, cutting the leaf in the middle longitudinally arise many other smaller and more slender nerves spread out to the sides of the leaf; the taste is woody and bitter, smell sweet.

The flowers (which are) small are produced around slender branch-lets every where among leaves on short, round and green petioles in clusters and not sparsely and gradually spread out on extended stalks in the form of an umbel consist of only one light yellow leaflet or calyx, but divided into three or four gentle incisions or flaps, in the middle of which arise a white short style; no smell, woody taste.



Fig. 5

Fruits adhere to branch-lets in twos, threes or many together, are oblong-round and not dissimilar to goose egg, both in shape and size, on the outside yellowish-green, covered with a thick, fleshy soft and cushioned rind. of acid biting taste and of unpleasant smell, in the manner of walnut or *persica*, under

this is the shell or woody bark (rind), with no taste nor smell, inside ash-grey, outside from black to date red. Unequal with depressions here and there; which are filled outside with a certain substance interposed to this already called (mentioned) rind, very similar to real *maci* covering that hard rind in certain places with a network, of red- yellow colour, of smell and taste not so pleasing as true, by which sign they are mutually distinguished: the woody rind being broken, is the oblong kernel 'nucleus' bearing the shape and size of a digit, of almost ash-grey colour and wrinkled and also very similar to the nut of 'moschata' in sea, except that scarcely any taste or smell is detected in this kernel.

Grows everywhere in the forests of Malabar: every year gives mature fruits once or twice namely in the months of June and December or January and remains fruitful for a long time.

(Its Uses)

Moreover these nuts are of no use in medicine; however they are sought after by Turkish and Jewish merchants who mix these with the nuts of *moschat* and also mix this reddish yellow substance covering the woody rind of this fruit with true *maci* and sell them together, similarly from these nuts and from their *maci* they press out an oil, by which mixed with oil of the genuine nut they are in the habit of cheating buyers.

Myristica malabarica Lam., Hist. Acad. Roy. Sci. Mem. Math. Phys. (Paris) 162. 1791; Sinclair, Gard. Bull. Singapore 23: 168. 1968; Manilal & Sivar., Fl. Calicut 249. 1982; Manilal & Suresh, J. Econ. Tax. Bot. 7: 205. 1985; Manilal, Fl. Silent Valley 233. 1988; Sasidh. & Sivar., Fl. Thrissur 378. 1996; Sivar. & Philip, Fl. Nilambur 581. 1997 [MYRISTICACEAE].

Panam-palca Rheede, Hort. Malab. 4: 9-10, t. 5. 1683.

The name Ponnen pazhukka (Malayalam script on t. 5) is not used; ponnen means gold and pazhukka means a fruit put to ripen. Today it is known by the name Kattujathikka; kattu means wild (forest) and jathikka means nutmeg (*Myristica*). It is common in sacred groves of northern Malabar.

1. The first part of the paper discusses the importance of the study and the objectives of the research. It also provides a brief overview of the methodology used in the study.

2. The second part of the paper presents the results of the study. It includes a detailed description of the data collected and the analysis performed. The results are presented in a clear and concise manner, using tables and figures where appropriate.

3. The third part of the paper discusses the implications of the study. It highlights the key findings and their significance for the field of study. It also provides recommendations for future research and practice.

4. The fourth part of the paper concludes the study. It summarizes the main findings and reiterates the importance of the research. It also provides a final statement on the contribution of the study to the field.

5. The fifth part of the paper is a list of references. It includes all the sources cited in the paper, providing a comprehensive list of the literature used in the study.

6. The sixth part of the paper is a list of appendices. It includes all the supplementary material provided with the paper, such as raw data, additional figures, and detailed calculations.

7. The seventh part of the paper is a list of figures. It includes all the figures presented in the paper, providing a clear and concise summary of the visual information.

8. The eighth part of the paper is a list of tables. It includes all the tables presented in the paper, providing a clear and concise summary of the tabular information.

9. The ninth part of the paper is a list of equations. It includes all the equations used in the study, providing a clear and concise summary of the mathematical information.

10. The tenth part of the paper is a list of symbols. It includes all the symbols used in the study, providing a clear and concise summary of the symbolic information.

11. The eleventh part of the paper is a list of abbreviations. It includes all the abbreviations used in the study, providing a clear and concise summary of the abbreviated information.

12. The twelfth part of the paper is a list of keywords. It includes all the keywords used in the study, providing a clear and concise summary of the key terms.

13. The thirteenth part of the paper is a list of subject headings. It includes all the subject headings used in the study, providing a clear and concise summary of the subject matter.

—♦—

Samstravadi
or
Caipa-tsjambu

FIG. 6



O the Malabar *Samstravadi*, to the Brahmins *Sada-pali*, to the Portuguese *Rosario de Jambu*, to the Belgians *wilde Jamboesen* is a tree of great magnitude, with a thick stem, provided with ash-grey branches of bitter taste and light acid smell, spread out in all directions here and there; the wood from white to yellow inside, which is covered over with a black rough, uneven crust.

Root thick, dark, provided with white bark and also spread out far and wide in the soil by means of their fibers; taste biting and bitter, smell displeasing and earthy.

The leaves many joined together in the shape of a star, arise on thick, short black-purple petioles, are oblong-round, acuminate, thick, dense, crenate at the periphery, on the upper side shining with black-green colour, on the lower with more dilute green colour, a span or more long, a palm wide; from the base to the apex of the leaf runs a conspicuous, round, green white nerve jutting on the lower side, from which many small nerves arise towards the upper part, which are carried into each other in an arched fashion: taste

bitter and biting, smell sweet and smelling of mature vinous apple. However the older leaves of this tree are fragile like glass and fall down, leaving their scars on the branches and the trunk, surround them with diverse swellings.



Fig. 6

Flowers odorless and bitter, not dissimilar to the flowers of *Nati Tsjambu* described in part 1 Tab. 18, (of which this tree is the wild genus), in like manner arise at the tip of branch-lets among spread out leaves with rather round, flexible, purple, glabrous, shining stalks, and two, three or four Italian arms long, by means of which many of them are attached here and there and arise from a thick, round, green purple, bifid or trifid calyx, formed of four

oblong- round, acuminate, thick whitish green and transparent leaves, with numerous purple stamens provided with yellow apices, occupying the middle cavity and centre of the flower, among which is the oblong, purple style, jutting (standing) out from the tip of the fruit itself.

The fruits not dissimilar to our pears, but more broad on the lower side, narrow at the upper part, furrowed (grooved) by four thick (wide) angles, and crowned at the apex with the erect calyx of the flowers surrounded by a slender skin, closely adhering everywhere to the flesh, glabrous, shining, first green then, from white to reddish, filled inside with white flesh, (which is) reddish towards the rind, dense and of displeasing and bitter taste; within which is placed the oblong-round kernel, very similar to acorn both in shape, substance and taste.

This tree grows in wild and humid places in Paroe, Oedimpere and other provinces of Malabar; is evergreen; flowers and bears fruits uninterruptedly wherefore it is called *sada-pala* by the Brahmins, that is, fruit-bearing tree, from *sada*- fruit bearing and *pala* meaning tree, uses and survives for a long time.

(Its Uses)

Moreover, the Ethnic *Jogues* or Pilgrims (*Yogis*) very much steeped in superstition, decorate themselves with the fruit-bearing and flower-bearing stalks of this tree and suspend them from the neck and make them sacred. As these fruit-bearing stalks are for them to count prayers, observing which the Portuguese called this tree *Rosairos*. Further the leaves are edible, the juice pressed out from the leaves and boiled with the oil of the palm to the consistency of an ointment, cures scabies if the affected part is smeared with it. The kernels of the fruits are reduced to powder and this cures diarrhoea if given mixed with dung of goats, *sugar* and butter milk, if however is taken with human urine is an antidote to any poison; if given with wine cures colic suffering (pain); mixed with water and given or applied outside mitigates pain of hemorrhage; finally drunk with woman's milk excites vomiting and also cures jaundice and other bilious diseases, and applied to the eyes does good to their afflictions

Barringtonia racemosa (L.) Spreng., Syst. Veg. 3: 127. 1826; Payson, Blumea 15: 192. 1967; Macnae & Fosb. in Dassan., Rev. Handb. Fl. Ceylon 3: 197. 1981. -*Eugenia racemosa* L., Sp. Pl. 471. 1753 [LECYTHIDACEAE].

Samstravadi, Caipa-tsjambu Rheede, Hort. Malab. 4: 11-13, t. 6. 1683.

The name in Malayalam script on t. 6 reads Samudravaazhi, samudrum means ocean and vaazhi means that which represents the king in the locality, possibly a reference to the fact that the species occurs near the ocean. Kaipachamba means bitter (kaipa) *Syzygium* (chamba), a reference to fruits of jambos. Today it is called Samudrajogam; samudram means ocean and jogam means amalgum. Jogam could also be from *Jogis* ("Jogues") or *Rishis* or sages, who use the fruit bearing stalks of this to count their prayers, as a sort of rosary beads.

Places of common occurrence mentioned are Paroe, now North Parur, and Oedimpere which is Udayamperoor, a small town south-east of Cochin.



Tsjeria Samstravadi

FIG. 7.



HIS, another species of *Samstravadi* is given, which is called *Tsjeria Samstravadi* by Malabaris, *Gove-sada-pali* by the Brahmins, *Rosairo Brava* by the Portuguese, *Beedelsnoeren* by the Belgians; and this is very similar to the proceeding one, nor does it yield in tallness.

The root, however from white-yellow, fibrous, bitter, odorless.

Flowers purple, fruits quadrangular, of first sweet taste, then bitter and displeasing.

Grows in various provinces of Malabar, chiefly in marshy and water logged places, gives mature fruits every year, namely in the months of January, February, March and April.

(Its Uses)

The wood of this tree is hard, solid and suited for carpentry; the other parts have the same use as *Samstravadi*.



Fig. 7

Barringtonia acutangula (L.) Gaertn., Fruct. 2: 97. 1791; Payens, Blumea 15: 226. 1967; Macnae & Fosb. in Dassan., Rev. Handb. Fl. Ceylon 3: 199. 1981; Manilal & Sivar., Fl. Calicut 109. 1982; Sasidh. & Sivar., Fl. Thrissur 185. 1996; Sivar. & Philip, Fl. Nilambur 266. 1997. -*Eugenia acutangula* L., Sp. Pl. 471. 1753 [LECYTHIDACEAE].

Tsjeria-samstravadi Rheede, Hort. Malab. 4: 15, t. 7. 1683.

The name Cheriya samudravaazhi (Malayalam script on t. 7) is not used; cheriya means small, and samudravaazhi means that which represents the king in the locality of (near) ocean. Today it is called Samudrajogam. It occurs along river banks.

Malla-katou-tsjambou

FIG. 8.



ALLA-KATOU-TSJAMBOU, that is *Mountain Tsjambou* for Malabar, *Malambetti* for the Brahmins, *Jambous dos Bugios* for the Portuguese, *Swyne-Jambosen* for the Belgians, is a tree of medium size, almost fourteen feet tall, with white stem provided with many branches spread in all directions, which are covered with a rough bark, first red then ash-grey, and of biting taste and woody smell.

The root yellow, covered with red bark, sticky, insipid, odorless.

Leaves paired, are attached to branch-lets by means of short petioles in a decussate order, are oblong-round, acuminate, thick, dense, glabrous, black-green, shining on the upper side, on the lower never (shining), with some nerves running to the sides from a white midrib, very much pronounced on the lower side; taste acidic, sour; smell nil.

Flowers small, coming near to the leaves of the linden tree in size, purple, odorless, acidic, many arise on tender shoots, and are in a green calyx divided into five, round, spoon shaped leaves, consisting of five or six thick, soft,

rather round leaflets curved (bent) towards the outside, in the middle of which comes out the style, purple in like manner, trifid above.

Roundish fruits succeed the florets with equal fertility, not dissimilar to prunes



Fig. 8

in size, provided with a broad quadripartite navel at the apex, surrounded by a green rind, and filled inside with dense flesh of acidic and displeasing taste, inside which is placed the white and similarly acidic and sour kernel.

Frequently grows in the mountainous places of Paroe and other provinces of Malabar; every year bears mature fruits, namely in the month of August .

(Its Uses)

The root is externally employed in different ways for cephalgia (head-ache) and other afflictions of the head.

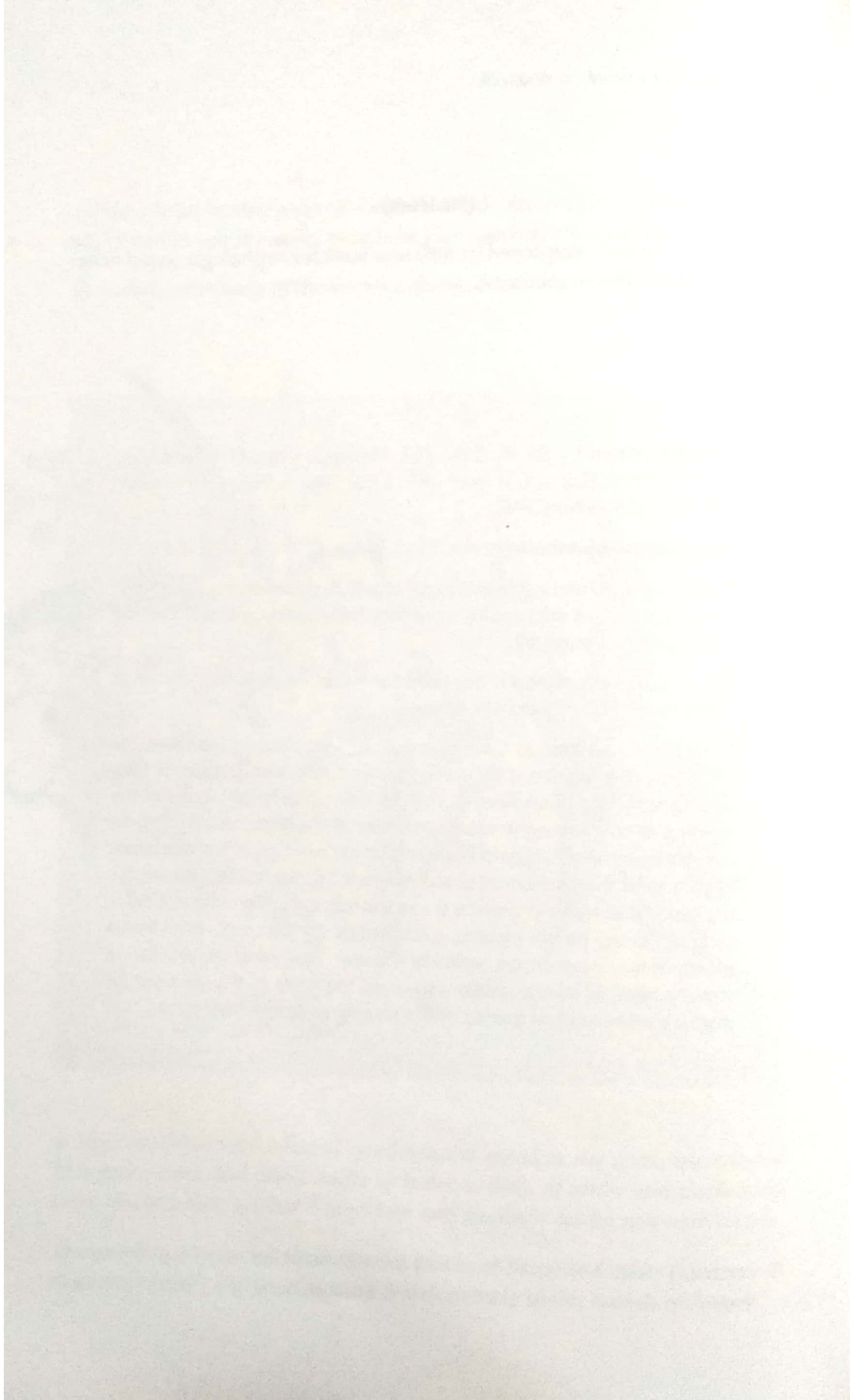
Santalum album L., Sp. Pl. 349.1753; Manilal & Sivar., Fl. Calicut 254. 1982; Sasidh. & Sivar., Fl. Thrissur 388. 1996; Sivar. & Philip, Fl. Nilambur 598. 1997 [SANTALACEAE].

Malla-katou-ts jambou Rheede, Hort. Malab. 4: 17-18, t. 8.1683.

The name Kattuchamba (Malayalam script on t. 8, except ending in -u) is not used; mala (in text title) means mountain, kattu means wild and chamba means jambos (*Syzygium*).

The place of occurrence is mentioned as Paroe, which is now known as North Parur, a town north of Cochin.

The name is written as Catu Ts jambu, i.e., wild *Jambos*. However, the illustration, description and the use mentioned fully fit wild *Santalum* or Catu Chandanam (Catu Tsjandanam). The *Santalum* occasionally found in this region is of no commercial value, since their stems (and mature roots) do not contain any significant amount of santalum oil, which gives its characteristic fragrance. For the santalum oil to accumulate in the plant parts, a continuous dry period of at least four months in a year is necessary. North Parur, Cochin or in fact in any part of Malabar, a continuous dry period of more than a month or two never occurs ordinarily in a year. This makes the wild Sandal growing here, of inferior quality. However, the roots of this are used for making a paste which is applied on the fore-head, against head-ache.



—

K a t o u - t j e r o e

o r

C h e r u

FIG. 9.



ATOU-TJEROE to the Malabaris, *Rana-bibo* to the Brahmins, *Uvas d'inferno* to the Portuguese, *Dulle pruymen* to the Belgians, is a tall tree, and is mostly beautiful, provided with a thick stem and many branches covered with ashen bark; spread far and wide and being green. The wood is white, dense, and provided with a dark and downy bark, this tree when wounded, pours out red, sticky, strong-smelling, very bitter and burning tears which finally becomes black in the sun.

Root white, covered with a dark bark, odorless, taste greasy and also sharp and burning.

Leaves arise around the branches without any order, about a span long, a thumb or a thumb and a half broad, on the upper side shining with dark green colour, on the lower side with a more dilute colour, from that middle, thick and on both sided jutting out (standing out) nerve, cutting the leaf lengthwise in the middle, many other smaller nerves arise, being spread out to the sides of the leaf in an orderly and parallel line: taste sharp and burning,

and contain a reddish juice, similarly sharp and burning, ulcerating the skin like castor.

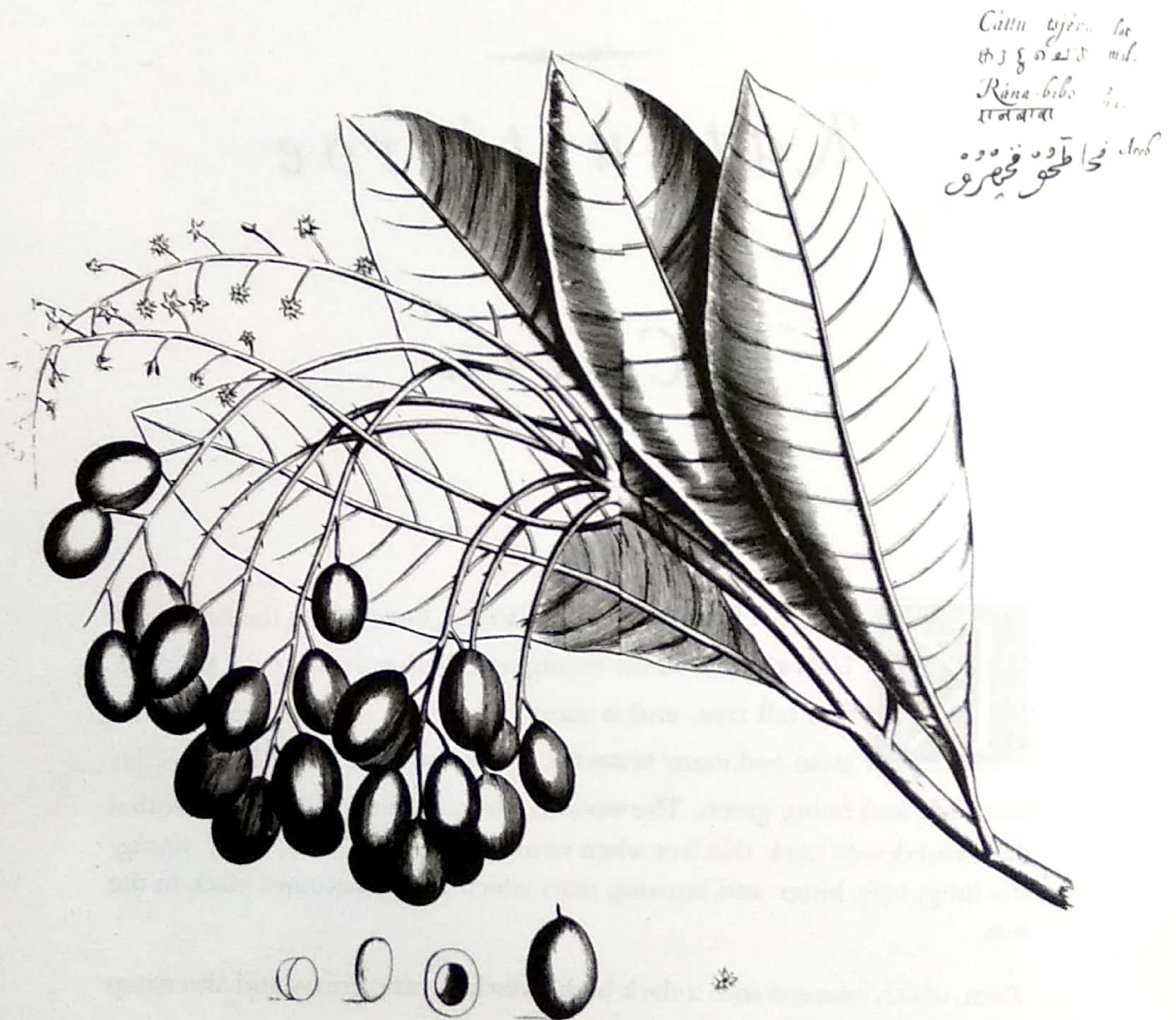


Fig. 9

Gives out in a racemose manner from the apex of the branch-lets, on oblong, green and hairy petioles flowers which are conspicuously white, delicate, sweet-smelling if clustered together, otherwise, devoid of any smell if they are brought to the nostrils singly, of burning and biting taste, composed of five

acuminate, downy leaflets spread out in all directions, in the middle of which are seen white fibers, provided with red and black heads, of which fibres some are spread out in between the leaflets and others are erect.

Small fruits from round to oblong, very similar to large blue grapes, succeed the florets with the same fertility, are first green, a little before maturity bluish-grey and downy and finally when they become mature bluish black and smooth and filled inside with light dark, succulent, sticky, biting and burning flesh; within which is placed an oblong stone, containing a white, sticky, slightly bitter and slightly burning kernel, not dissimilar to "avellana" in shape.

Moreover there is another species of this tree, called *Tsjero* by the Malabaris, *Bibo* by the Brahmins, very similar to this, except that the fruits are not from round to oblong and bluish-black, but bears simply round black fruits.

This trees grow everywhere in Malabar, in places both forest and mountainous, and also on the banks of rivers, is evergreen and produces flowers and bears fruits uninterruptedly and not rarely survives up to the two hundredth year. It is mostly cultivated in the fields where paddy or wheat is grown for driving away small birds by its destroying quality.

(Its Uses)

Moreover, from its wood small boats, called *Mansjous* by the natives are made. Painters use the dark and reddish tear that the wounded bark gives out and also the sticky and pungent juice of the fruits, mixed with lime for depicting cotton linen with different figures in an indelible colour. A decoction of the fruits in sweet milk taken in, helps in itches, leprosy, head-ache originating from cold, giddiness, colic pains and other affections arising from viscid phlegmatic and flatulent fluids. The juice pressed out from the fruits and the bark of tree, and applied to cold tumors (boils) opens them eating into the skin and exciting the vesicles (not otherwise than a potential operation). And although the natives use this tree and its parts in different ways and seek cure for different affections (sickness) from these; nevertheless however, among the Indians are found some to whom this tree is a noxious poison and from a slight contact of it the whole body gets swollen in an extraordinary manner (allergic); which symptoms is mitigated quickly by taking milk, butter or oil.

Holigarna arnottiana J. Hook., Fl. Brit. India 2: 36. 1876; Manilal & Sivar., Fl. Calicut 73. 1982; Sasidh. & Sivar., Fl. Thrissur 121. 1996; Sivar. & Philip, Fl. Nilambur 169. 1997. - *Holigarna longifolia* Wight & Arn., Prodr. 169. 1834, non Roxb. 1820 [ANACARDIACEAE].

Katou-tsjerroe, Cheru Rheede, Hort. Malab. 4: 19-21, t. 9. 1683.

This species is simply called Cheru [Malayalam script on t. 9]. It is very common in sacred groves and is wild in some areas of Malabar. To day the name Kattucheru is used for other *Holigarna* species; kattu means wild and cheru means *Holigarna*.

As Rheede noted, the fruits are used to make indelible marks on cotton, and hence it is called the Marking Nut Tree.



Tani

FIG. 10.



HIS tree is called *Tani* by the Malabaris, *Gottinga* by the Brahmins, *Biborala* by the Portuguese, *Heylpeeren* by the Belgians, is a tall tree, with a thick stem provided with glabrous, ash-grey, green branches here and there, spread in all directions. Wood, from white to yellowish, covered with a thick, glabrous; grey bark, which is inside date-red, the 'matrix' of which is hard, striated from red.

The root white, covered with a dark bark, odourless, tasteless, and with its fibers spread far wide in the soil.

Leaves arise many joined together around the terminal branch-lets on round, green-shining and oblong petioles, are oblong round, acuminate, dense, glabrous, easily exceeding a span in length and a palm in width, on the upper side shining with a dark green colour, on the lower with a dilute green colour; some transverse nerves run towards the upper part; no smell, taste woody.

The flowers in like manner arise on the terminal shoots among the leaves, on stalks a span long, to which they are attached in a racemose manner, are small, sweet smelling, insipid, consisting of five oblong-round, green-white hardly open leaves, so much so that they can be compared to buds than to



Fig. 10

flowers; with ten small from white to yellowish stamens, provided with apices, occupying the middle cavity of the flowers.

Pear shaped fruits succeed the florets with equal fertility, are not dissimilar to large prunes in size, are covered with a thin glabrous, shining

and red rind adhering everywhere to the flesh; inside filled with a green, succulent, insipid flesh of woody smell, within which is placed an oblong round stone, containing a white kernel of pleasing taste and not dissimilar to "avellane" nut.

Grows in sandy places in Padinjate, Bardelle and other provinces of Malabar, is evergreen and flowers and bears fruits always uninterruptedly, and not rarely remains fruit bearing for two centuries.

(Its Uses)

The wood of the tree is suitable for carpentry, from which are made large chests (boxes) and boats and also from the hollowed out trees of this kind Indians make boats, which they call *Mansjous*. The kernel of the fruits is edible, and these reduced to powder cures that endemic cachexia (morbid state of body system) (which is called *Pitao** by the Portuguese), and they set aright the ills of eyes, the oil pressed out from these and smeared on the head strengthens the hairs. The bark of this trees is an antidote to noxious poison which is contracted in any way from the tree *Katou-Tsjerou* or *Rana-bibo* and its fruits and this is given slightly crushed and with the addition of a bit of *Asafoetida*. Moreover the juice of this and of the bark, boiled with rice and milk if given, cures colic pain.

Terminalia bellirica (Gaertn.) Roxb., Pl. Corom. 2: 54, t. 198. 1805 ("*bellerica*"); Exell in Fl. Males. I, 4: 569. 1954; Manilal & Sivar., Fl. Calicut 105. 1982; Sasidh. & Sivar., Fl. Thrissur 177. 1996; Sivar. & Philip, Fl. Nilambur 258. 1997. -*Myrobalanus bellirica* Gaertn., Fruct. 2: 90. 1791. *Terminalia taria* Ham., Trans. Linn. Soc. London 17(2): 159. 1835 [COMBRETACEAE].

Tani Rheede, Hort. Malab. 4: 23-24, t. 10. 1683.

The name Thanni (Malayalam script on t.10) is still used. It is of occasional occurrence throughout Malabar.

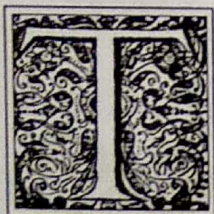
The places of occurrence mentioned are Padinjate, which is the Padinjattu swarupam, the region around Kodungalloor. Bardella is narrow strip of land east of Moutan (Muttom), south of Cochin.

*For an explanation by Rheede on what is *Pitao*, see note by him in Volume 10, Tab. 60.



Tsjem-tani

FIG. 11.



SJEM-TANI of Malabar, *Tanis-Morij* of the Brahmins, is a tree of great magnitude, with a thick stem covered with a thick, rough, bark, ash-grey (out side) reddish inside, of aromatic small, of slightly acid taste and also provided with very many green branch-lets and not rarely hairy; wood white with a greenish matrix.

Root reddish, covered with a thin yellowish bark, bitter, smelly.

Leaves arise without any order around branch-lets on round and rough petioles, (are) broad, from round becoming pointed, (are) prickly and serrate in margin, on the upper side dark-green, on the lower side light green, somewhat rough, hairy to touch, with biting and slightly bitter taste, with aromatic smell; from the thick mid-rib some transverse nerves and from these many other nerve-lets run towards the upper part.

Flowers arise among foliaceous shoots a span long, to which they adhere in a racemose manner by means of downy petioles, consisting of three oblong-round, white, soft leaflets bent towards the outside, stuck in an oblong, round, hairy, white calyx supported by a green, tricuspidate base (pedicel), with

three yellow stamens provided with black apices, occupying the middle cavity and centre of the flower, among which the style comes out, yellow in like manner; no smell, taste bitter.

Tojem-tani. Lat.
 മെരുമി mal.
 چهن طغني Arab.



Fig. 11

The fruits of this tree (not otherwise than the preceding tree) are pear shaped, furrowed with three obtuse (thick) angles, approaching olives in size, provided with a small tip at the apex, surrounded by a green, rough rind, beset with very small spines and inside filled with a dense, dark, smelly, and bitter flesh,

inside which is an oblong, round triangular stone, containing three white, bitter, similarly triangular kernels, mutually separated from the wood by means of certain whitish green partitions.

Grows in wild, rocky, sandy and mountainous places in Parakaroo and other provinces of Malabar; is ever green, flowers and bears fruit once a year, namely in the months of December and January, and remains fruit-bearing for a long time.

(Its Uses)

Moreover the bark of the tree warms up, checks and lessens viscid and phlegmatic fluids, strengthens weak bowels, and also draws out the fluids of those suffering from dropsy. The same bark along with the pulp of the fruit reduced to powder and administered, stops tertian fever (fever recurring every other day, i.e., on the third day, reconing the first and the last days, which actually is malaria). The kernels of the fruits when eaten, loosen the bowels.

Rumphia amboinensis L., Sp. Pl. 1193. 1753; L., Sp. Pl. ed. 2, 49. 1762.
-*Rumphia tiliifolia* Lam., Tabl. Encycl. 1: 96, t. 25. 1791 ("*tiliaefolia*"), nom. illeg. (incl. type of *R. amboinensis* L. 1753); Poir. in Lam., Encycl. 6: 352. 1804; J. Hook., Fl. Brit. India 2: 44. 1876. *Cordia tiliifolia* Warburg in Greshoff, Rumph. Gedenkboek 78. 1902 (not seen, superfluous?).[INCERTAE SEDIS]

Tsjem-tani Rheede, Hort. Malab. 4: 25-26, t. 11. 1683 (Figure 1, p. 8).

The name Chemthanni (Malayalam script on t. 11) is not used; chem (from chuvappu) means red and thanni means *Terminalia bellirica*. This plant has not been seen or recollected later.

The place name Parakaroo is known by the same name today also.

The first of these is the fact that the soil is very dry and sandy and contains very little organic matter. This is due to the fact that the soil is very old and has been eroded for a long time. The second is the fact that the soil is very poor in nutrients and is therefore very infertile. This is due to the fact that the soil is very old and has been eroded for a long time.

The third is the fact that the soil is very poor in water and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time. The fourth is the fact that the soil is very poor in air and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time.

(The text is very faint and illegible.)

The fifth is the fact that the soil is very poor in light and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time. The sixth is the fact that the soil is very poor in heat and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time. The seventh is the fact that the soil is very poor in moisture and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time.

The eighth is the fact that the soil is very poor in fertility and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time. The ninth is the fact that the soil is very poor in productivity and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time.

The tenth is the fact that the soil is very poor in sustainability and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time. The eleventh is the fact that the soil is very poor in resilience and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time.

The twelfth is the fact that the soil is very poor in adaptability and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time. The thirteenth is the fact that the soil is very poor in flexibility and is therefore very dry. This is due to the fact that the soil is very old and has been eroded for a long time.

Mal-naregam
 or
Dwarf Wild Ceylon Lemon Apple.
Dr. Herman

FIG. 12.



THE tree which is called *Mal-Naregam* or *Nara-maram* by the Malabariss, *Nani* and *Rana-numba* by the Brahmins, *Limaodo Mato* by the Portuguese, *wilde Citroenen* by the Belgians, is of medium size, covered with a glabrous, ash-grey bark, of aromatic and sharp smell and taste, very closely (tightly) united (adhering to) white dense and very hard wood; with foliaceous branches beset with rigid, from dark yellow spines, coming out from the stem.

Root white, covered with a light red bark, of aromatic smell, of bitter taste.

Leaves arise close to the spines around the branch-lets, are oblong-round, acuminate, dense, glabrous, not dissimilar both in form (shape) and in colour, smell and taste (similar) to the small lemons.

The flowers, many joined together are attached to the outermost shoots, are small, white, sweet-smelling, are formed of four oblong-round, acuminate, thick and soft leaflets, with many stamens, joined together in the form of a cup, and occupying the middle (of the flower) among which comes out the thick, white style, smooth and reddish on the upper part.

Oval fruits, not dissimilar to olives both in shape and size and provided with a small spine at the apex, succeed the florets, first with green colour, when mature however with golden or citrus colour like lemon, are surrounded with a thin rind, with bitter taste, and in the middle of the fruit is a cavity filled with a slight bitter, vinegar-like juice contained in its membranes, to



Fig. 12

which is inserted an oblong-round, acuminate and white kernel, covered with a red skin, imitating the leaves of lemon in smell and taste.

Grows everywhere in mountainous and sandy places in Malabar, flowers mostly in the months of June, July, August and September, and then gives mature fruits.

(Its Uses)

Moreover the leaves of this tree boiled in oil and applied to the head stop head-ache, and their juice is an outstanding sternutatory (causing sneezing) for clearing the head. The juice pressed out from the fruits heals that endemic Cachexia (*Pitao*). And lastly antispasmodic pills are made from the root.

Atalantia monophylla (L.) DC., Prodr. 1: 535. 1824; Manilal, Fl. Silent Valley 42. 1988. - *Limonia monophylla* L., Mant. 2: 237. 1771; Roxb., Pl. Corom. 1: 59, t. 83. 1795. *Turraea virens* sensu Hellenius, Kongl. Vetensk. Acad. Nya Handl. 9: 294, t. 10, f. 1-2. 1788, non L. 1771. *Trichilia spinosa* Willd., Sp. Pl. 2: 554. 1799. *Malnaregam malabarica* Raf., Sylv. Tellur. 143. 1838 ("*Malnarega*"). *Atalantia spinosa* (Willd.) Tanaka, J. Bot. 68: 232. 1930 [RUTACEAE].

Mal-naregam Rheede, Hort. Malab. 4: 27-28, t. 12. 1683.

The name Malanaregam is not used now; mala means mountain and naregam means edible *Citrus*. On t. 12, Rheede wrote in Latin what can be read as Kattu cherunaregam, which name also is not in use now; kattu means wild and cheru (from cheriya) means small. The Malayalam name is Kattu Naregam [Malayalam script on t. 12], the name still used, i.e., wild edible *Citrus*. It grows along forest margins throughout Malabar.



Katou Naragam

FIG. 13.



HIS tree is called *Katou Naragam*, that is *wild Naragam* by the Malabaris, *Rana-nimba* and *Coduvo-nani* by the Brahmins, *Limao Coroado* by the Portuguese, *wilde limonen* by the Belgians. And is tall with a thick and white stem, provided with many branches; which are covered with an ash-grey, sweet-smelling bark, and are filled inside with a fungous pith, and are moreover armed with dark, shining and pointed spines.

Root yellowish, covered with dark, bitter, sweet smelling.

Leaves are very similar to the leaves of *Mal-Naragam*, except that the small nerves arising from the mid-rib are more thick, and more bold on the lower side, because of which it is almost curled into folds and wrinkles.

Flowers many joined together arise on the outermost shoots, are seen not otherwise than in *Mal-Naragam* and are attached to a green calyx divided into five acuminate flaps, are scented, light bitter, consist of five sub round leaflets, with eight or ten stamens occupying the middle; among which arises a very short style, similarly white, the rudiment of the fruit itself.

The fruits are small lemons, striated with subtle furrows and on the top crowned with the calyx of the flowers, are dark-green, first interspersed with white dots, then with golden or lemon like, covered with a rind not dissimilar to the rind of lemon, filled inside with white flesh of acidic or wine like taste,

Catu-Naregam. Lar.
കുരുമുളകു മാല.



Fig. 13

within which are contained oblong-round, smooth, white and shining seeds, placed in two lines and separated by certain membranous skins or very intact walls so much so that each one remains in its cell.

Often grows in sandy and rocky places around Parakaro and Kaymaal provinces of Malabar, once a year produces mature fruits, namely in the months of December and January.

(Its Uses)

Further the juice of the leaves of this tree is a very good sternutatory (causing sneezing), for clearing the head. The same juice given with *long pepper*, *Ginger* and *Sugar* relieves coughing and powerfully cures other pulmonary affections originating from the cold. Moreover from these leaves boiled in water a bath is made, which wonderfully helps in driving away fatigue and pains of joints.

Catunaregam spinosa (Thunb.) Tirvengadam, Taxon 27: 515. 1978; Manilal & Sivar., Fl. Calicut 132. 1982; Manilal, Fl. Silent Valley 130. 1988; Sasidh. & Sivar., Fl. Thrissur 218. 1996; Sivar. & Philip, Fl. Nilambur 318. 1997. - *Gardenia spinosa* Thunb., Diss. Gard. 7: 16. 1780; Willd., Sp. Pl. 1: 1229. 1798. *Limonium torulosum* Dennst., Schlüssel 30. 1818. *Randia spinosa* (Thunb.) Bl., Bijdr. 981. 1826. *Narega coduva* Raf., Sylva Tellur. 98. 1838, nom. illeg. (incl. type of *Limonium torulosum* Dennst. 1818). *Xeromphis spinosa* (Thunb.) Keay, Bull. Jard. Bot. Etat, Brux. 28: 37. 1958 [RUBIACEAE].

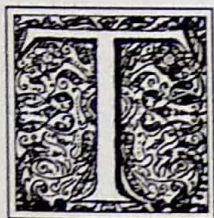
Katou-naregam Rheede, Hort. Malab. 4: 29-30, t. 13. 1683.

The name Kattu naregam (Malayalam script on t. 13) is not used; kattu means wild and naregam means edible *Citrus*. No Malayalam name is known for this plant now. It occurs along forest margins in midlands of Malabar.

The place names mentioned are Parakaroo (now also of the same name) and Kaymaal, which is the present day Ernakulam of the city of Cochin.

Tsjerou-Katou-Naregam

FIG. 14.



THE small tree which is called *Tsjeria Katou-Naregam* by the Malabaris, *Citt-rana-nimba* by the Brahmins, *Limoins da folha Cruzado* by the Portuguese, *Claver appelkens* by the Belgians, is a smaller species of the preceding one, and more low, rising up to almost six or seven feet in height, with a slender stem similarly provided with spinous branches covered with grey bark; yellow wood, very hard, odourless, insipid.

Root fibrous, yellow, of bitter taste, of aromatic smell.

Leaves oblong-round, slightly cremate in the outline, smelling, aromatic, arise on winged or foliaceous petioles in pairs around branch-lets, namely in two or three pairs, mostly with a simple leaf at the tip; to such an extent that one may easily judge petioles to be leaves and the uppermost leaflets joined together not badly may represent the popular trifolium of the meadows.

Flowers arise on small branches on short petioles at the origin of the spines, and are attached to green calyx divided into five acuminate flaps, are white, sweet smelling, bitter, consisting of five-oblong-round leaflets spread out in

all directions, endowed with seven or eight white and downy stamens in the middle, provided with yellow apices, among which comes out a style, white in like manner, with a small, yellow head.



Fig. 14

The fruits also are small round lemons, like grapes in size, are first green, speckled with white spots then golden or lemon, and in the middle of the fruit is a certain cavity filled with a vinegar-like, slightly bitter and aromatic juice contained in its membranes, to which are joined (mingled) three oblong-round, acuminate, and from white to yellowish seeds, mutually separated by membranous skin.

Found near the mountainous places of Malabar, around Candanate, always with flowers and fruits.

(Its Uses)

Moreover the leaves of this tree are an instant remedy for curing epilepsy. The root moves bowels, drives out sweat, and also heals colic pains and cardialgia (heart-burn). Dried fruits strengthens the stomach and restores in it the obstructed fermentation of foods, and powerfully resists (checks) air contagious from small-pox and malignant and infectious fevers, and is considered an excellent antidote to various poisons, whence is greatly priced and is avidly sought after by Arabs and other merchants.

Naringi crenulata (Roxb.) Nicols. in Sald. & Nicols., Fl. Hassan Distr. 387. 1976; Manilal & Sivar., Fl. Calicut 58. 1982; Sasidh. & Sivar., Fl. Thrissur 84. 1996; Sivar. & Philip, Fl. Nilambur 125. 1997. - *Limonium crenulatum* Roxb., Pl. Corom. 1: 60, t. 86. 1798. *Limonia acidissima* sensu J. Hook., Fl. Brit. India 1: 507. 1875 [RUTACEAE].

Tsjerou-katou-naregam Rheede, Hort. Malab. 4: 31.32, t. 14. 1683.

The name Cheru kattunaregam (Malayalam script on t. 14) is still used; cheru means small, kattu means wild, and naregam means edible *Citrus*. It is abundant in uplands of Malabar.

Place name mentioned is Candanate, which is Candanaadu.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
JANUARY 1964

TO THE HONORABLE CHAIRMAN OF THE BOARD OF TRUSTEES
OF THE UNIVERSITY OF CHICAGO
FROM THE DEPARTMENT OF CHEMISTRY
SUBJECT: A REPORT ON THE PROGRESS OF THE RESEARCH
PROGRAM IN THE DEPARTMENT OF CHEMISTRY
DURING THE YEAR 1963



Paenoe

FIG. 15.



THE tree which is called *Paenoe* by the Malabaris, *Doepoe* by the Brahmins, *Arvore Ensenza* by the Portuguese, *Hars-boom* by the Belgians, is tall, and mostly beautiful, about sixty feet tall, with a stem more or less sixteen feet thick and provided with many branches spread out far and wide, and covered with a thick ash-grey bark, red inside; which when wounded, pours out a resinous, white, transparent, scented, pungent and bitter tear, which finally in the sun turns yellow, thickens and becomes brittle like glass; wood dense, from white turning yellow.

Root black, resinous, bitter, strong scented, and also spread far and wide by means of its fibres.

Leaves adhere to small branches without any order by means of thick, round, ash-grey petioles. are oblong-round, acuminate, thick, dense, glabrous, shining, exceeding a span in length and a palm in width, green on the upper side, on the lower from green to yellow; with some nerves running out to the sides from the mid-rib and standing out boldly on the lower side: taste bitter and resinous, smell nil.

Flowers are produced around the tender branches in bunches (balls) not scattered, and gradually spread out on erect columns in the form of umbels; consist of five oblong-round, thick, white leaflets, and adhere to a white calyx divided into five acuminate flaps, with numerous yellow stamen besetting



Fig. 15

the middle; among which arises a white, erect style with a round and yellow apex; smell sweet and liliaceous, taste bitter.

Fruits, approaching green walnuts in size, arise on thick, long and round petioles, are oblong-round, but more broad on the upper side, more narrow towards the lower part and provided with the calyx of the flower, bent towards

the stalk, with leathery, black-purple and hairy rind, furrowed by three angles, which when the fruit is mature completely dehisces and splits on three sides, and exhibits a large, oblong-round, white kernel, covered with a red cuticle, as is seen in the nut of *Avellana*, taste slightly bitter and slightly biting; however this cushioned calyx, which surrounds the fruit, when wounded by slight cuttings gives out a similar resinous tear, as the wounded bark, which on contact with air quickly thickens like sugar candy and then turns red.

Grows everywhere in Malabar, is green, every year bears mature fruits, namely in the month of April and not rarely remains fruit-bearing for three hundred years.

(Its Uses)

Moreover from the trunks of tender trees "Naval Mali" are made; from these hollowed out, when older, the Indians make larger boats (*Mansjous*) which can carry sixty or more men; and those made from the wood of this tree are not easily obnoxious to wood-worms in water.

Merchants avidly seek after the resin which the bark, root, fruit and other parts of the plant pour out, and that boiled with copious or little oil, is used instead of liquid or hard pitch: moreover is burnt in the place of incense by the natives in sacrifices. The gentiles make discs from the leaves and in these they receive the resin of this tree and keep them (preserve them).

Further the kernels of the fruits crushed and ground to fine powder with hot water and given, strengthens the stomach, drives away nausea and vomiting, sedates stomach-pain, cures cholera. From the resin of this tree molted with alba and sesame oil an excellent balsam for wounds is made. The same resin powdered and applied powerfully cures virulent gonorrhea and other venereal infections.

Vateria indica L., Sp. Pl. 515. 1753; Manilal & Sivar., Fl. Calicut 42. 1982; Manilal, Fl. Silent Valley 24. 1988; Sasidh. & Sivar., Fl. Thrissur 56. 1996. - *Vateria malabarica* Bl., Mus. Bot. Lugd.-Bat. 2: 29. 1856 [DIPTEROCARPACEAE].

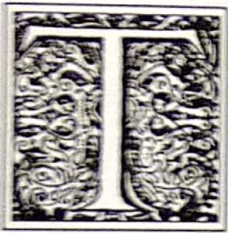
Paenoe Rheede, Hort. Malab. 4: 33-34, t. 15. 1683.

The name Payenu (Malayalam script on t. 15) is still used. It is the source of white dammar called in Malayalam as Vella (white) Kundirikkam. [Payin is a name for gymnosperms such as Pinus, which is also a source of black dammar, used for burning in the place of incense]. It grows throughout Malabar and is in much demand for plywood.



Nyalel

FIG. 16.



HIS tree is called *Nyalel* by the Malabaris, *Lassa* by the Brahmins, *Maquinha* by the Portuguese, *Werlingen* by the Belgians, is tall, almost forty feet high, with a moderately thick stem, covered with an ash-grey bark and provided with many reddish branches spread in all directions; wood white, without smell, insipid, with a reddish matrix.

Root red, covered with a dark bark.

Leaves in pairs adhere to small branches in a parallel fashion by means of short petioles, are oblong-round, acuminate, dense, glabrous, shining with dark green colour, insipid, odourless, the mid-rib woody, green-white, round and boldly standing out on the lower side, from which arise towards the upper side many small nerves which are carried into themselves in an arched manner.

Flowers small, white, numerous arise in a racemose manner around the outer shoots, and each one is attached to a green calyx divided into five flaps,

consisting of five fine broad-round leaflets spread in all directions, with five stamens provided with sickle-shaped apices, occupying the middle; among which arise an erect and similarly white style, with a yellow head; smell displeasing and foetid taste nil.

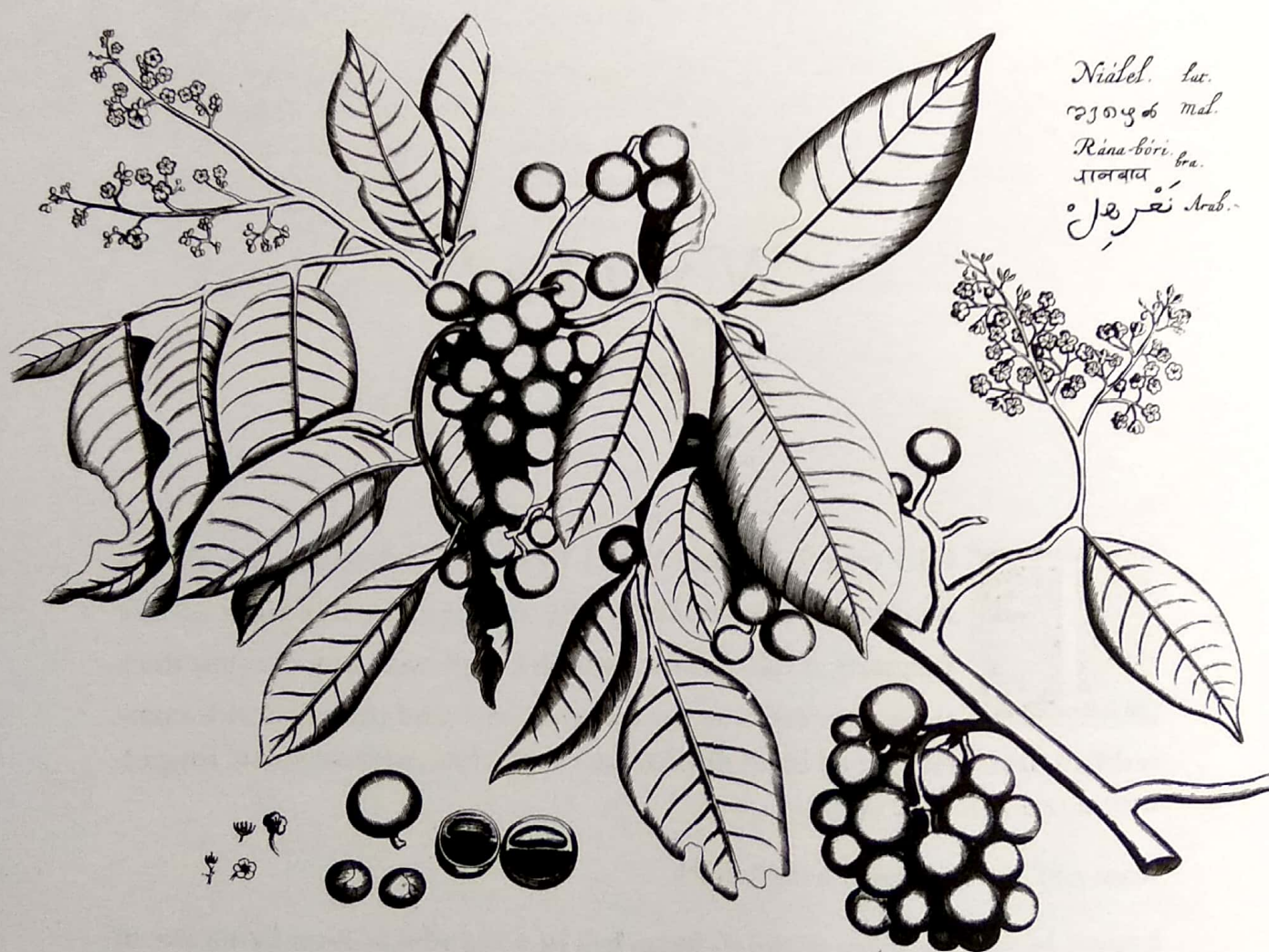


Fig. 16

Numerous globose fruits adhering to racemes in the manner of grapes follow the florets, to which they are not dissimilar in size, surrounded by a thick yellow rind inside white and downy, and inside filled with from white to bluish, transparent, succulent, slightly acidic and of the taste of wine flesh, inside which are contained two oblong-round smooth, light green kernels,

covered with from white to bluish cuticle, of from sweet to sharp taste, separated mutually by a membranous partition.

Grows frequently in the island Baypin and also in Caimall, and other provinces of Malabar, is ever green, gives mature fruits every year, namely in the months of April and October, and remains fruit-bearing almost seventy years.

(Its Uses)

The fruits are a delicacy. But the kernel crushed with fresh *Ginger* and with the addition of *Sugar* and given, move the bowels. From the juice of the unripe fruits with *Sugar*, a syrup is prepared mainly suitable for cough, asthma and other thoracic affections.

Aglaia elaeagnoidea (Juss.) Benth., Fl. Australia 1: 383. 1863; Backer & Bakh., Fl. Java 2: 128. 1965; Mabb., Taxon 26: 530. 1977; Manilal & Sivar., Fl. Calicut 63. 1982. - *Nemeda elaeagnoidea* Juss., Bull. Sci. Nat. Geol. 23: 236 (not seen). 1830. *Milnea roxburghiana* Wight & Arn., Prodr. 119. 1834. *Nyalelia racemosa* Dennst. ex Kostel., Allg. Med.-Pharm. Fl. 5: 2005. 1836. *Milnea racemosa* (Kostel.) M. Roem., Pam. Nat. Syn. Monogr. 1: 98. 1846. *Aglaia roxburghiana* (Wight & Arn.) Miq., Ann. Mus. Lugd.-Eat. 4: 41. 1868; Matthew & Britto in Matthew, Fl. Tamilnadu Cam. 3(1): 231. 1983 [MELIACEAE].

Nyalel, Nialel Rheede, Hort. Malab. 4: 37-38, t. 16. 1683.

The name Njazel (Malayalam script on t. 16) is still in use. It grows in forests, including sacred groves, throughout Malabar.

Place names mentioned are Baypin, which is now known as the Vypin Island; and Caimall, which is now called Ernakulam, a part of Cochin city.



Angolam

FIG. 17.



NGOLAM or *Alangi* to the Malabaris, *Angolam* to the Brahmins, *Espinho Sancto* to the Portuguese, *Keyser vreugde* to the Belgians, is a tall tree and mostly beautiful, equaling the measurement of about hundred feet in height and provided with many

branches spread far and wide in all directions; which are covered with a green bark and are armed with woody, thick, long and rigid spines; wood, white, very hard, surround by a glabrous, ash-grey bark speckled with dots, of pungent-bitter taste, of aromatic smell.

Root fungous, red, covered with a yellow bark, bitter, smelly.

Leaves arise on short petioles around the spines (which later grow into small branches) of the branches, are oblong-round, thick, soft, glabrous, green on the upper surface, dark green on the lower, smelly, bitter, with some nerves obliquely running into the sides from the white mid-rib standing out boldly on the lower side.

The flower arises at the origin of the leaves, similarly with spines, mostly one at times two or more and is attached to a round calyx divided into ten flaps,

consists of ten, round, thick, dense, light green, inside white, leaflets, which being bent outwards come together around the the stem with their tips, with ten red knobs jutting out (prominent) which the pale stamens support, the middle of which is occupied by a pistil, of the same colour as the stamens;



Fig. 17

smell sweet, taste bitter. The fruits are globose, like larger cherries in size, endowed with a very small nerve at the tip, surrounded by a thick, purple rind, which, when the fruit is mature, dehisces by itself (spontaneously) filled inside with succulent flesh of pleasing and sweet taste, inside which are contained two or three black, glabrous, round-smooth kernels which are white inside. These fruits are however avidly sought after and are eaten as a delicacy.

Grows in rocky sandy and mountainous places in Mangatti and other provinces of Malabar, is ever-green, and bears fruits and survives long.

(Its Uses)

Moreover this tree, for different reasons, is the emblem of the Royal Majesty of the Malabar, the main (reason) of which is that the flowers not dissimilar to the imperial diadem (crown/head-band) adhere to rigid spines; moreover the juice pressed out from the root of the tree and given, kills worms, and also purges bilious and phlegmatic fluids in the stomach, and drives out the fluids of these suffering from dropsy (morbid accumulation of watery fluid in any part of the body). The powder of the root administered is an antidote for the poisonous biting of serpents (snakes) and of other poisonous animals.

Alangium salvifolium (L.f.) Wangerin subsp. *salvifolium* - *Alangium decapetalum* Lam., Encycl. 1: 174. 1783. *Alangium salvifolium* subsp. *decapetalum* (Lam.) Wangerin in Engl., Pflanzenr. IV. 220b: 11. 1910 [ALANGIACEAE].

Angolam Rheede, Hort. Malab. 4: 39-40, t. 17. 1683.

The name Angolam (Malayalam script on t.17) is still used. It is also called Ayinkolam. The name Alangi, mentioned in Rheede's text, is not used in Kerala but Alinji is used in Tamilnadu. This small tree is mentioned [by Rheede] to grow in Mangati, now called Alangadu, a lowland area, but it is not found there today.



I d o u - m o u l l i

FIG. 18.



DOU-MOULLI of the Malabaris, *Elasticanto* of the Brahmins, *Periera dos diabos* Portuguese, *Dulle-boom* of the Belgians, is a tall tree, about seventy feet high, with a thick stem, provided with many branches spread far and wide; which are covered with an ash-grey bark, inside green, bark and also every where provided with numerous scales equipped moreover with rigid, dark, glabrous and shining spines; wood white, fibrous, dense, covered with ash-grey bark which is inside red and light green, of slightly bitter taste, the matrix of which is red and very hard.

Root white, surrounded by a red bark, of bitter taste, of earthy smell.

Leaves arise around spinous branch-lets on short and round petioles, are oblong-round, acuminate, thick, dense, glabrous, dark-green on the upper side, light green on the lower, with some nerves running into the sides from a reddish mid-rib, boldly standing out on the lower side; smell of the wood, taste nil.

The florets similarly arise around spinous branches on black-red and rough petioles, are purple, formed of five oblong-round, acuminate leaflets, provided in the middle with five yellow fibres endowed with apices; among which juts out a similar, small, reddish style, taste unpleasant, smell, nil.



Fig. 18

Pear shaped fruits, light green on one side and reddish on the other side and shining, succeed the florets with equal fertility, crowned with a very small navel at the top, and filled with green, dense, succulent, bitter flesh within is

a reddish stone, containing a white kernel, first not dissimilar to Avellana fruit in taste, then however leaving an unpleasant taste.

Grows in wild and sandy places in Paloerti an other provinces of Malabar: every year once, sometimes twice bears mature fruits, namely in the months of January and March, and survives for a long time.

(Its Uses)

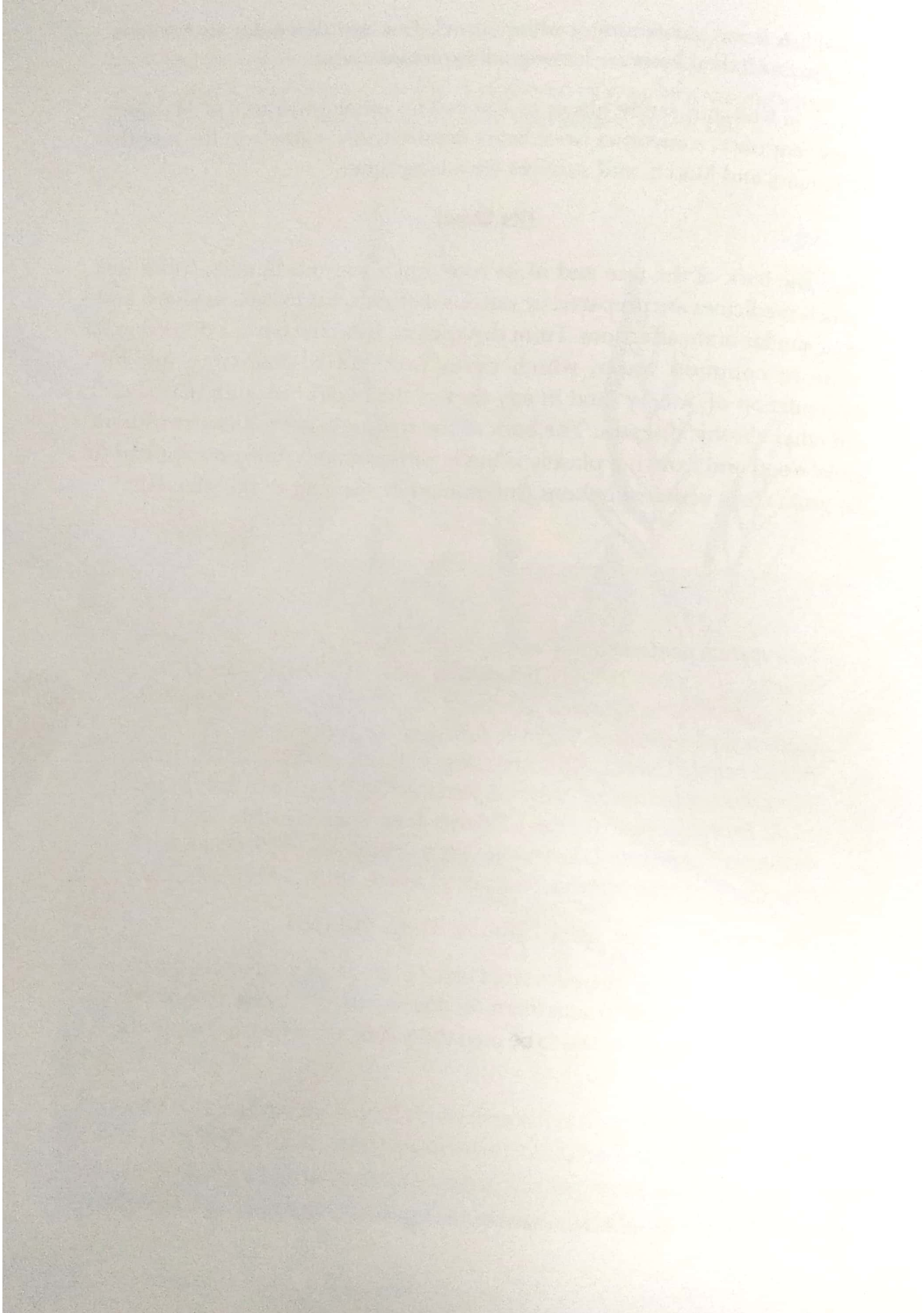
From the bark of the tree and of its root and also from flowers, fruits and kernels medicines are prepared by various methods, for mania, madness and other similar brain affections. From this (plant), from the bark, a decoction is made in common water, which cures powerfully dropsy (a morbid accumulation of watery fluid in any part of the body), icterum (jaundice?) and other chronic diseases. The bark of the root reduced to powder with *red sandal* wood and from it a plasma is made with woman's milk and applied to the groin cures venereal bubons (inflammatory swelling of the glands).

Scleropyrum pentandrum (Dennst.) Mabb., Taxon 26: 533. 1977; Manilal & Sivar., Fl. Calicut 254. 1982; Sasidh. & Sivar., Fl. Thrissur 388. 1996. - *Pothos pentandrus* Dennst., Schlüssel 16, 24, 33. 1818 ('pentandra'). *Sphaerocarya wallichiana* Wight & Arn., Edinburgh Phil. J. 15: 180. 1832. *Heydia horrida* Dennst. ex Kostel., Allg. Med.-Pharm. Pl. 5: 2005. 1836. *Scleropyrum wallichianum* (Wight & Arn.) Arn., J. Mag. Zool. Bot. 2: 550. 1838. *Bridelia horrida* (Kostel.) Dillwyn, Rev. Hortus Malab. 15. 1839. *Antidesma parasiticum* Dillwyn, Rev. Hort. Malab. 33. 1839 ('parasitica'), nom. illeg. (incl. type of *Pothos pentandrus* Dennst. 1818) [SANTALACEAE].

Idou-moulli Rheede, Hort. Malab. 4: 41-42, t.18.1683.

The name Irumulli [Malayalam script on t. 18] is not used; iru means double and mulli (from mullu) means thorn, i.e., double-thorned [thorns arise mostly in pairs]. No name is known to be used today. It occurs in forests throughout Malabar.

Place name mentioned is Paloerti, which is now known as Palluruthy, a southern suburb of Cochin.





Poerinsii

FIG. 19.



THIS tree is called *Poerinsii* and *Vercoe-Poelongi* by the Malabaris and *Ourinti* or *Damitassi* by the Brahmins *Sabao dos Canarins* by the Portuguese, *Seepnooten* by the Belgians; is tall, with a quite thick stem, provided with many branches spread out in all directions inside which are covered with a black-purple, inside green bark, and filled inside with a fungous and white pith; wood yellow, very hard surrounded by a bark, odourless, insipid.

Root yellow, covered with a white bark and spread far and wide through the soil by means of its fibres; taste light sweet.

Leaves arise two by two, mutually opposed to each other, on tender shoots, are oblong-round, acuminate, dense, equaling more or less $7/12^{\text{th}}$ (of in inch) in length and three or four in width, black, green, shining on the upper side, never shining on the lower, with some nerves standing out on the lower side, running out to the sides from the mid-rib: sweet smell, light sweet taste.

The florets arranged in oblong raceme arise on the outermost branches, are star-shaped, not dissimilar to the flowers of the elder tree (*Sambucus*) in shape

consist of five slender, oblong round, from red to green, shining inside white and downy leaflets, with some white stamens, provided with golden apices, occupying the middle cavity and the centre of the floret, among which the very small, yellow style comes out, the rudiment of the fruit itself. However the minute buds of these develop themselves into florets scarcely within the



Fig. 19

space of four months and are round and green, and are attached to a green calyx divided into five sub round leaflets; smell nil, taste slightly biting.

Exactly similar oblong-round fruits often grow in a racemose manner, mostly two or three joined together closely, first green and downy, when more mature

however light yellow and red; but when dry hard, wrinkled and dark. However the tender ones of this fruits are inside filled with white, soft, and viscous flesh, which finally change into a round dark nut, containing inside a small, white, hard, sharp, odourless kernel.

Grows in various forests of Malabar; is ever-green, every year gives mature fruits and from the tenth year of planting not rarely up to the hundredth remains fruit-bearing.

(Its Uses)

Moreover from the wood of this tree *Citharas* (an ancient musical instrument) and combs are made. The fruits are used in washing and cleaning linen; for these crushed in water, makes it white and foaming, that which is required for washing and cleaning linen. The "Anrifabri" are used to boil silver-ware with this foaming and leached water and clean them. Moreover it is said that when the forehead is smeared with the foams of this soapy water, it drives out cephalagia (head ache) and fever. An infusion or foaming decoction of these fruits in ordinary water, if given, relieves colic pain and also is used for various internal and external affection. From the leaves boiled in ordinary water, if given, relieves colic pain and also is used for various internal and external affections. From the leaves boiled in ordinary water, an anti-arthritic bath is prepared. Similarly from these with fresh *Ginger* and *cumin* seeds a decoction is made with ordinary water, which mitigates stomach pain and checks gas. Root crushed with the infusion of paddy and given, cures paralysis and severe pains of joints.

Sapindus trifoliata L., Sp. Pl. 367. 1753; Hiern in J. Hook., Fl. Brit. India 1: 682. 1875; Sasidh. & Sivar., Fl. Thrissur 119. 1996; Sivar. & Philip, Fl. Nilambur 165. 1997. - *Sapindus laurifolia* Vahl, Symb. 3: 54. 1794, nom. illeg. (incl. type of *S. trifoliata* L. 1753) [SAPINDACEAE].

Poerinsii Rheede, Hort. Malab. 4: 43-44, t. 19. 1683.

The name Urungi (Malayalam script on t. 19) is sometimes used even today; also the name erungi. It is very common throughout Malabar.



Adamboe

FIG. 20, 21.



HIS tree is called *Adamboe* and *Cadelipoea* by the Malabaris, *Sotulari* by the Brahmins, *Catupinaca da Serra* by the Portuguese, *Baak-roosen* by the Belgians; is less tall, about seven feet high, with a white stem provided with many branches spread in all direction, which are covered with a rough bark first green then dark.

Root white, covered with an ash-grey bark, of strong and woody smell, of greasy taste.

The oblong-round, thick, dense leaves arise without any order on short, knotty petioles around the younger shoots, exceeding a span in length and a palm in width, black-green on the upper side, on the lower from green to reddish, somewhat rough to touch, from that middle thick, white, and boldly standing out rib on the lower side, cutting (dividing) the leaf in the middle lengthwise, many other smaller nerves arise towards the upper part which are carried into themselves in an arched manner; smell woody, taste light biting.

Numerous elegant, purple, shining flowers, not dissimilar to roses with round, hairy petioles arise around small branches, and consist of six or seven soft,

somewhat round, expanded and somewhat bent leaflets; and adhere to a broad; deep thick, wrinkled, light green calyx, divided in the form of a star into six or seven acuminate flaps, which moreover gives out many erect stamens, white towards the base, red towards the apex, provided with, yellow,



Fig. 20

shining and smooth apices, among which an acuminate style comes out, red below and green above, taste slightly salty, smell nil.

Odourless, insipid, round, dark green, shining fruits provided with an oblong style at the top, succeed the flower, towards the base clasped in a smooth,

thick, and green calyx, which spreading its lobes wide, and bending towards the outside, somewhat resembles a star, inside filled with white flesh, inside which are hidden many flats seeds, not dissimilar to the seeds of the Mallow tree, contained in six or seven locules, mutually separated by certain membranous skins.



Fig. 21

Often grows in sandy and rocky places in Mangatti and Cranganoor, chiefly along the banks of rivers, flowers in the months of July and August, bears fruits in the months of November and December: is however evergreen, and survives for a long time.

(Its Uses)

Moreover, from the root of the tree boiled in water a gargle is prepared, which cures ulcer of palate and mouth and also any affections of the throat. From the same root boiled and then a plasma is made, which when placed on boils powerfully softens and ripens them. From the bark leaves and flowers of the tree, a decoction is made with water, which when drunk opens up obstruction of liver, spleen and of other viscera; and powerfully draws out through the belly and the urine the fluids of those suffering from dropsy (morbid accumulation of watery fluid in any part of the body). The seeds, not otherwise than the seeds of *coriander* is hostile to the head and produces giddiness, drunkenness and similar afflictions.

Lagerstroemia hirsuta (Lam.) Willd., Sp. Pl. 2: 1178. 1799; Sasidh. & Sivar., Fl. Thrissur 195. 1996; Sivar. & Philip, Fl. Nilambur 278. 1997. - *Adambea hirsuta* Lam., Encycl. 1: 39. 1783. *Adambea glabra* Lam., Encycl. 1: 39. 1783, non *L. glabra* (Koehne) Koehne 1907. *Lagerstroemia flos-reginae* Retz., Obs. 5: 25. 1789, nom. illeg. (incl. type of *Adambea glabra* Lam. 1783). *Lagerstroemia reginae* Roxb., Pl. Corom. 1: 46, t. 65. 1796, nom. illeg. (incl. type of *Adambea glabra* Lam. 1783); Furtado & Srisuko, Gard. Bull. Straits Settl. 24: 261. 1969 [LYTHRACEAE].

Cadali-poea, Adamboe Rheede, Hort. Malab. 4: 45-46, t. 20-21. 1683.

The name Kadali-poovu (Malayalam script on t.20, t.21) is not used now; kadali (in Rheede's sense elsewhere) means *Melastoma malabathricum* and poovu means flower. Today Kadali refers to a medicinal *Musa*. Adambu (in Rheede's sense elsewhere and still today) refers to *Ipomoea pes-caprae*. The name used for the present plant today is Poomaruthu, poo (from povu) means flowers and maruthu refers to arborescent *Lagerstroemia*. The species is cultivated but is also found wild in forests along river banks of Malabar.

Places where the plant is mentioned to be found are Mangatti, now known as Alangadu, east of Kodungalloor; and Canganoor, which is now called Kodungalloor.



Katou-adamboe

FIG. 22.



HIS tree is called *Katou-adamboe* and *Katou-Cadeli-poea* by the Malabaris, *Dava-Sotulari* by the Brahmins, *Catupinaca-Brava* by the Portuguese, *wilde Baak-roosen* by the Belgians, is the wild species of the preceding one, and is bigger: for it grows more tall. Moreover stem, branches, root, leaves and other parts of this tree quite agree with the preceding *Adamboe*, except that the leaves and branches of this tree are downy and hairy.

The flowers are also similar to the flowers of the preceding *Adamboe*, as those of *Paretti*, described in part 1: Tab.30; only five erect stamens, white, provided with red apices occupy the middle cavity and centre of the flower; among which comes out the white style, with a bifid tip.

Similarly the fruits are akin to the fruits of the other tree, except that they are rough with very slender hairs.

Grows in the mountainous places in Mala and Poiga provinces of Malabar; flowers in the months of May, June and July, In December bears ripe fruits; is evergreen.

(Its Uses)

Moreover from these leaves crushed with water of Indian nut a plasma is made, which when placed on veneral bubons (inflammatory swellings of glands) and other swellings of glands, heals them.



Fig. 22

Lagerstroemia hirsuta (Lam.) Willd., Sp. Pl. 2: 1178. 1799; Sasidh. & Sivar., Fl. Thrissur 195. 1996; Sivar. & Philip, Fl. Nilambur 278. 1997. - *Adambea hirsuta* Lam., Encycl. 1: 39. 1783. *Adambea glabra* Lam., Encycl. 1: 39. 1783, non *L. glabra* (Koehne) Koehne 1907. *Lagerstroemia flos-reginae* Retz., Obs. 5: 25. 1789, nom. illeg. (incl. type of *Adambea glabra* Lam. 1783). *Lagerstroemia reginae* Roxb., Pl. Corom. 1: 46, t. 65. 1796, nom. illeg. (incl. type of *Adambea glabra* Lam. 1783); Furtado & Srisuko, Gard. Bull. Straits Settl. 24: 261. 1969 [LYTHRACEAE].

Katou-adamboe Rheede, Hort. Malab. 4: 47, t. 22. 1683.

The name Kattuadambu is not used; kattu meaning wild and adambu (elsewhere in Rheede and still today) refers to *Ipomoea pes-caprae*. The name used today for this is Pooumaruthu; poo (from povu) means flowers and maruthu refers to arborescent *Lagerstroemia*. The name written in Malayalam script on t.22 is, again, Kadali-Poovu. The species is cultivated but is also found wild in forests, along river banks of Malabar.

Karin - Kara

FIG. 23.



ARIN-KARA to the Malabaris, *Tamagali* to the Brahmins, *Naritha* to the Portuguese, *Haan-ballen* to the Belgian, is a tree of medium size, with a moderately thick, white stem, covered with a dark, rough odourless and bitter bark, and also provided with green branches spread in all directions.

Root red, covered with a white bark.

Leaves arise without any order on short, round, and furrowed petioles around branch-lets, are oblong-round, acuminate, dense, glabrous, shining with dark-green colour on the upper side, on the lower with green-yellow colour, with some nerves obliquely running out to the sides from the white mid rib, standing out on the lower side; taste bitter and sour.

Flowers, white, similar to the flowers of *Poenoe* in size and similar to the flowers of *Genista* or *Laburnum* in shape, hang from the tips of branch-lets or from the sides in a slender ligule, and are in a green calyx, divided into five acuminate leaflets, unequal in size, consisting of five oblong-round, thick, white leaflets, of which the uppermost much larger than the others, broad,

bent towards the upper part and dehiscing below with an open cleft, from which come out many white stamens endowed with apices; smell sweet, taste bitter.



Fig. 23

Fruits similar to walnuts in size, are round, globose, and striated by two protuberances towards the tip, surrounded by a green-yellow rind, and filled inside with white, first dense and then soft and light sweet flesh, inside which is placed a round kernel, divided on two or three sides, light green, covered with a red skin, taste approaching that of beans.

Grows in wild places of Malabar, is ever green, not rarely bears ripe fruits twice a year namely in the months of April and October, and does not survive long.

Is of no use in medicine.

Xanthophyllum arnottianum Wight, Ill. Ind. Bot. 50, t. 23, f. 9. 1840; Van der Meijden, Leiden Bot. Ser. 7: 79. 1982; Manilal, Fl. Silent Valley 16. 1988; Sasidh. & Sivar., Fl. Thrissur 48. 1996; Sivar. & Philip, Fl. Nilambur 64. 1997. -*Xanthophyllum flavescens* sensu auct. as to S. India, non Roxb. 1820: Wight & Arn., Prodr. 39. 183; Bennett in J. Hook., Fl. Brit. India 1: 209. 1874 [XANTHOPHYLLACEAE].

Karin-kara Rheede, Hort. Malab. 4: 49-50, t. 23. 1683.

The name Karinkara (Malayalam script on t.23) is not used; karin means black and kara refers to plants with edible fruits, (such as *Elaeocarpus serratus* or *Canthium*) usually with thorns. No Malayalam name is known for this today. It occurs in forests and sacred groves throughout Malabar.

Perin-kara

FIG. 24.



PERIN-KARA of the Malabarais, *Gali-dousa* of the Brahmins, *Azeitones do malavar* of the Portuguese, *wilde Olyven* of the Belgians is a tree of great size, with a thick stem surrounded by a thick, ash-grey inside purple bark, and also provided with dark-green branches and very many twigs sprouting up; wood white, dense, fibrous.

Root, similarly white, covered with a red bark, which moreover is covered with a black cuticle; taste light bitter, smell of wood.

Leaves in the first appearance (stage) are red and plicate, arise around the tender branches, when they have grown up are oblong-round, acuminate crenate in the margin, dense, glabrous, dark green and shining; from the thick and on the lower side boldly standing out mid-rib, many other rib-lets arise towards the upper part which are carried into each other in an arched manner; taste first acidic then bitter.

Flowers sweet-smelling, white, arise among the leaves on the outermost shoots, on one span long stalks, to which they adhere by means of short petioles,

consisting of fine oblong leaflets, divided into very many fine filaments around the tip like coma, and enclosed in a green calyx, divided into five acuminate lobes, with some red, erect stamens occupying the middle cavity of the flower, among which juts out the green-white style, the base of which is a very small, date-coloured globule.



Fig. 24

The fruits succeed the flowers with equal fertility, similar to large olives both in shape and in substance and in size, also containing a similar kernel. Ripe ones are blue-purple, acidic-sweet, of pleasing taste, unripe ones however are yellow, sour, slight bitter.

Grows in Mangatti, and other provinces of Malabar, every year flowers twice, and bears fruits, namely in the months of March and October and remains fruit bearing for a long time.

(Its Uses)

Moreover, these fruits are eaten as a delicacy, and are preserved with Sugar and are preserved like olives in brine and vinegar for *Achaar*, and these eaten with food during lunch and supper, strengthen the stomach and powerfully help the fermentation of food in it.

Elaeocarpus serratus L., Sp. Pl. 515. 1753 ("*serrata*"); Men., J. Arnold Arb. 32: 194. 1951; Sasidh. & Sivar., Fl. Thrissur 74. 1996; Sivar. & Philip, Fl. Nilambur 112. 1997. -*Elaeocarpus oblongus* Gaertn., Fruct. 1: 202. 1788. *Elaeocarpus perin-kara* DC., Prodr. 1: 519. 1824 [ELAEOCARPACEAE].

Perin-kara Rheede, Hort. Malab. 4: 51-52, t. 24. 1683.

The name Perinkara (Malayalam script on t.24) is not used; perin means large and kara refers to plants with edible fruits (karakka) such as this and *Canthium*. The name used today is Kara. It is very common around Cochin.

The place name Mangatti refers to the present Alangadu, the region east of Kodungalloor.



Manyl-Kara

FIG. 25.



ANYL-KARA of the Malabarais, *Manil-gale* of the Brahmins, *Fruita Manilha* of the Portuguese, *Leo-bessen* or *Chineesche Pruymnen* of the Belgians, is a tall tree, with a thick stem, provided with many branches spread far and wide; which are covered with a dark green bark, when wounded they pour out a greasy, insipid, odourless liquid; wood ash-grey covered with a dense, rough, dark bark, inside red.

Root yellow, of sharp taste, of woody smell.

Numerous leaves arise on thick, round and green petioles around the outer branch-lets, are oblong-round, black green, thick, dense, glabrous, shining; from that thick, round, green-yellow and very boldly standing out nerve on the lower side, longitudinally dividing the leaf in the middle, many other smaller, and slender nerves arise towards the upper part, which are mutually carried into themselves in an arched manner. If these leaves are crushed in the hand, they give out a viscid, milky and sharp liquid, by means of which the tender leaves are folded together.

The flowers, not dissimilar to the flowers of the linden tree in size, similarly arise in bunches and not scattered, among leaves around the outermost branch-lets on downy and purple petioles, and gradually spread out on erect columns in the form of umbels; consist of triple series of acuminate and red leaflets, of which each series contain six leaves, and the middle one is quite



Fig. 25

erect, adhere to a thick, red and downy calyx, divided into six acuminate lobes; with six white stamens provided with red spices, occupying the middle cavity and centre of the flower, among which the style comes out, the beginning of the fruit itself; smell sweet and honey-like, taste nil.

Fruits similar to olives both in size and shape; immature ones green, shining, and filled with a viscid and milky juice, more mature ones however purple, filled inside with red, succulent, and acid sweet flesh; within which are placed oblong, glabrous, red, shining stones, two by two (very rarely one) containing a white, slight bitter kernel.

This tree comes up nowhere, except sown in gardens with seeds or seedlings, neither does the Malabar region constitutes its native place, but from China, the Manilhas Islands (Philippines) and other far off regions was brought to it, wherefore not in vain it is called by *Malabaris Manylkara*, as if *Kara ex Manilhas Islands*. Every year bears mature fruits, namely in the months of August and September, is evergreen, and remains fruit-bearing for a long time.

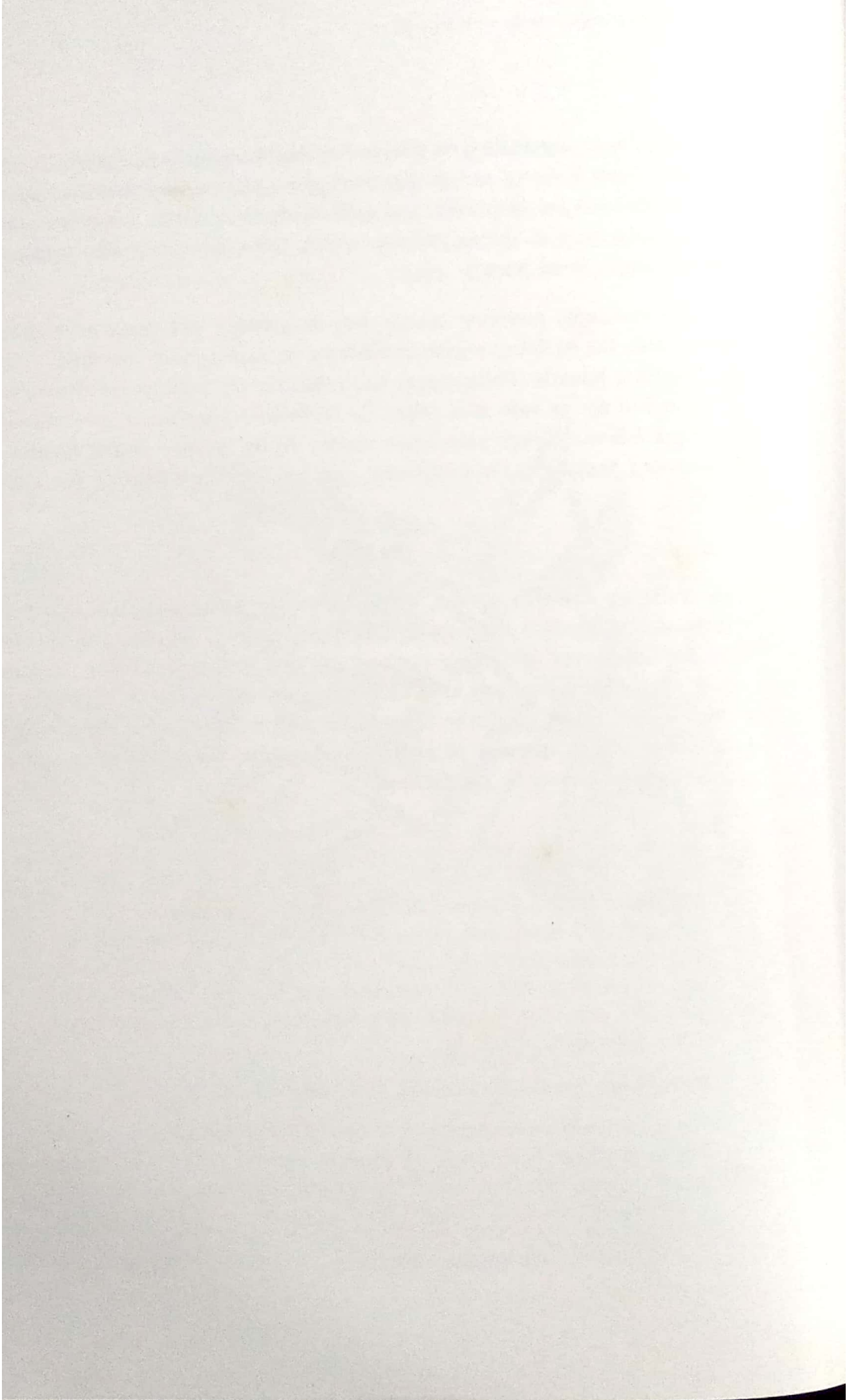
(Its Uses)

Ripe fruits are eaten as dessert, they increase appetite, and greatly help the fermentation of foods in the stomach. From the leaves of the tree with *Curcuma* root and the leaves of *Ginger* cooked and crushed, a plasma is prepared, which when placed over any kind of swelling or boil, ripens them powerfully. From the same leaves cooked in *Gingelly* oil with the addition of the pulverised bark of this tree, a smear is prepared; which greatly helps in curing endemic disease called *Beriberi* by the Indians.

Manilkara kauki (L.) Dubard, Ann. Mus. Colon. Marseille 23: 9. 1915; Lam, Bull. Jard. Bot. Buitenzorg ser. 3,7: 239. 1925; Van Royen, Blumea 7: 405. 1953. -*Mimusops kauki* L., Sp. Pl. 349. 1753. *Imbricaria malabarica* Poir. in Lam, Encycl. 4: 434. 1798. *Mimusops manilkara* G. Don, Gen. Hist. 4: 35. 1837, nom. illeg. (based on same type as *Imbricaria malabarica* Poir., 1789) [SAPOTACEAE].

Manyi-kara Rheede, Hort. Malab. 4: 53-54, t. 25. 1683.

The name *Manilkara* (Malayalam script on t.25) is not used. Rheede indicated that it is introduced from China or Philippines, and that "Manil" was adapted from Portuguese "Manilhas Insulas" (for Manila, Philippine Islands?). *Kara* refers to edible fruits. No name is known for this occasionally cultivated species.



Kara-angolam

FIG. 26.



HIS tree is called *Kara-angolam* by the Malabarais, *Namidou* by the Brahmins, *e Spinho Santo Bravo* by the Portuguese, *wild Keysers-Vreught* by the Belgians; and is another species of *Angolam*, tall in like manner, almost equaling the measure of forty feet in height and six feet in thickness, provided with many light ash-grey and green branches spread out in all directions far and wide; wood white, dense, covered with ash coloured bark, the core of which is purple.

The root thick, dense, yellowish, covered with a dark bark; and indeed deeply clinging to the soil with their fibers spread wide through it (earth); taste sharp and bitter, smell unpleasant.

Leaves adhere to short branches (which in the first species of this tree are veritable spines), are oblong round, glabrous, soft, green on the upper side, light green on the lower, with some veins running towards the sides from the mid-rib; taste sharp and bitter, smell nil.

Flowers arise on short and dark green petioles around the same branch-lets with leaves and are green and are attached to a deep calyx, are formed of six,

round, thick, dense, acuminate, white leaflets, which (not otherwise than can be seen in the flowers of the former species) being bent (twisted) towards the outside, join together around the stalk, with ten or twelve white and acuminate stamens occupying the middle cavity of the flower, from among which comes out the whitish style, provided with an oblong-round head; smell sweet, taste bitter.



Fig. 26

Globose fruits, similar to small apples in size, succeed the flowers, provided with a very small navel (tip) surrounded with a thick, soft, downy, purple and inside white rind, and filled inside with a red, succulent, viscid, firm (sticky) flesh of acid taste; within which is placed an oblong round, red nut enclosing a white, bitter-sweet kernel.

Grows in rocky, sandy and mountainous places in Kandenate and other provinces of Malabar, is ever green, always flowers and bears fruits and survives long.

(Its Uses)

Moreover, an ointment good for wounds is prepared from the leaves of this tree, boiled in oil. The root is cathartic (having the power of cleansing the bowels; purgative) and sends out phlegmatic fluids through the belly. The fruits are rarely eaten because they heat up blood.

Alangium salvifolium (L.f.) Wangerin in Engl., Pflanzenr. IV. 220b: 11. 1910; Matthew & Britto in Matthew, Fl. Tamilnadu Carn. 3(1): 687. 1983. -*Grewia salvifolia* L.f., Suppl. Pl. 409. 1782 ("*salvifolia*").

Alangium salvifolium subsp. ***sundanum*** (Miq.) Bloem. Bull. Jaard. Bot. Buitenzorg ser. 3, 16:156. 1939; Sasidh. & Sivar., Fl. Thrissur 213. 1996. *Alangium salvifolium* subsp. *hexapetalum* (Lam.) Wangerin in Engl., Pflanzenr. IV. 220b: 1910; Bloembergen, Blumea 1: 250. 1935; Mukherjee, Bull. Bot. Survey India 10: 331. 1968; Manilal & Sivar., Fl. Calicut 128. 1982. -*Alangium hexapetalum* Lam., Encycl. 1: 175. 1783. *Alangium sundanum* Miq., Fl. Ned. Ind. 1: 774. 1856. [ALANGIACEAE].

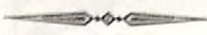
Kara-angolam Rheede, Hort. Malab. 4: 55-56, t. 26. 1683.

The name Kara Angolam is not used now; kara meaning edible fruit. The name written in Malayalam script on t.26 is Kaara. The name used today is Angolam. This shrubby subspecies is found along the coastal belt of Malabar, unlike the arborescent subspecies that is found in dry interior regions, especially around Palghat.

The place name mentioned Kandenate is now known as Candanaadu.

The first part of the report is a general introduction to the project. It describes the purpose of the study and the objectives that were set at the beginning. The second part is a detailed description of the methodology used in the study. This includes information about the sample, the data collection methods, and the statistical analysis that was performed. The third part of the report is the results section, which presents the findings of the study. The final part is a conclusion that summarizes the main points of the report and discusses the implications of the findings.

The results of the study show that there is a significant difference between the two groups. The first group performed better than the second group in all of the tasks that were measured. This suggests that the first group has a higher level of skill or knowledge than the second group. The conclusion of the study is that the first group is more competent than the second group. This finding has important implications for the field of study. It suggests that there are differences in the abilities of different groups of people, and that these differences can be measured and compared. This information can be used to help identify areas where people need more training or support, and to develop strategies to improve their performance.



Theka

FIG. 27.



HEKA to the Malabarais, *Sailo* to the Brahmins, *Jati* to the Malaccans, *Teka* to the Portuguese and Belgians, is a tall tree, and very beautiful, with a very thick stem, covered with rough and ash-grey bark, and also provided with very many green, jointed and quadrangular branches; wood white, hard, glabrous, striated, not dissimilar to the wood of oak.

Root red, of biting and slightly bitter taste, of light acid smell.

Leaves in pairs are attached to branch-lets in a parallel order, are oblong-round, acuminate, dense, thick, shining, on the upper side, not shining on the lower, two spans or more long, one span broad; a conspicuous, round nerve runs from the base to the apex of the leaf, standing out on the lower side, from which many smaller nerves obliquely run to the sides; smell acidic, taste sour. If however crushed between hands these leaves give out a juice, which immediately becomes dark-purple like blood.

Small, sweet-smelling flowers arise around tender branch-lets at the origin of the leaves, on long, quadrangular, and furrowed petioles, and gradually

spread out in the form of an umbrella, on straight little columns consist of five or six sub-round, white, leaflets twisted outwards, and are attached to (sit in) very small, and acuminate calyx; these leaflets come between as many white stamens, provided with yellow heads, with a light green, acuminate style occupying the middle. Finally there come up large green pouches,



Fig. 27

(vesicles) open on the upper side, in which are placed three or four (separated from each other by a woody partition) sub-round, green, downy and hairy fruits, and also filled with greenish odourless flesh of bitter and biting taste; within which is contained a square nut, turning reddish from white, enclosing a small, white kernel.

Grows everywhere in Malabar, but mostly in the province of Atsjen Coyl, and Calicolan, where whole forests of these immense trees are seen, Is evergreen, and flowers and bears fruits every year, namely in the months of August and October; and not rarely remains fruit-bearing from the tenth to the three-hundredth year.

(Its Uses)

The wood, however, of this tree, not dissimilar to the wood of oak, is very fit for artisan's work and among the 'sea farers' is in use for making ships: but is easily liable to wood-worms in water, especially in fresh water. The gentiles, I do not know, led by what superstition, construct or repair their temples only with this wood. And the prince of Calicolan said that he saw to it that a whole temple was built from one single tree of this kind. From the tender leaves a purple colour is made, with which cotton or silk cloths are dyed. Also, these tender leaves are eaten by the natives as a delicacy: and from these leaves cooked with *Sugar* a syrup is made which cures asthma(?). From the flowers cooked in honey a medicine is prepared, which when taken sends out water of those suffering from dropsy (morbid accumulation of watery fluid in any part of the body). The root, dried, crushed and powdered, and thus administered dissolves blood coagulated by any chance. From the crushed tender fruits an ointment is made, very useful to cure herpes (skin disease of various kinds, with spreading clusters of vesicles on an inflamed base).

Tectona grandis L.f., Suppl. Pl. 151. 1782; Manilal & Sivar., Fl. Calicut 231. 1982; Mold. in Dassan., Rev. Handb. Fl. Ceylon 4: 304. 1983; Sasidh. & Sivar., Fl. Thrissur 354. 1996; Sivar. & Philip, Fl. Nilambur 537. 1997. -*Tectona theka* Lour., Fl. Cochinch. 137. 1790. *Theka grandis* (L.f.) Lam., Tabl. Encycl. 2: 211. 1797 [VERBENACEAE].

Theka Rheede, Hort. Malab. 4: 57-58, t. 27. 1683.

The name Thekku [Malayalam script on t. 27] is still used. It grows throughout Malabar (possibly native in dry areas) and is planted for timber.

Places where they are found in abundance are mentioned as Atsjen Coyl, i.e., Achankovil, south east of Quilon; and Calicolan, which is now called Kayamkulam.



Katou-theka

FIG. 28.



HIS tree, which is called *Katou-theka* by the Malabaris, *Davas Sailo* and *Vana papalou* by the Brahmins, *Teka-Brava* by the Portuguese, *wilde Teka* by the Belgians, is a smaller and short species of the preceding, in thickness not dissimilar to prune, with stem covered with ash-grey bark, and also provided likewise with very many green, quadrangular and furrowed branches, wood white, odourless, insipid.

Root purple.

Leaves in pairs adhere to branch-lets in a parallel fashion, are oblong-round, thick, dense, glabrous, shining with dark-green colour on the upper side, on the lower with more dilute green colour, a span long, almost three or four fingers broad, insipid, odourless, with some veins standing out on the lower side, and running into the sides from the yellow mid-rib.

Flowers which are numerous, odourless and insipid, arranged in the form of a mane, arise at the tips of shoots, each one of which seem to approach the

flowers of Lilac, are oblong, white, consisting of five round, thick, soft leaflets twisted towards the outside, with five white, erect and acuminate stamens occupying the middle.



Fig. 28

The fruits similar to the nuts of Avella in size, are oblong-round, provided with a very small projection at the top, surrounded by a glabrous and yellow rind and also filled with a succulent, sweet, green-yellowish flesh within which is contained a stone, enclosing a white sweet kernel.

Grows everywhere in Malabar, chiefly around Warapoli, is evergreen, flowers and bears fruits every year, namely in the months of August, September and October, but is not fruit bearing for a long time.

(Its Uses)

However, these fruits are frequently eaten with betel leaf, instead of *Areca* or *Kaunga*. The bark of the tree, dried and reduced to powder and thus administered, is said to check the heat (burning) of bile.

Psychotria dalzellii J. Hook., Fl. Brit. India 3: 163. 1880; Ridsdale in Manilal, Bot. Hist. Hort. Malab. 136. 1980; M. R. & S. M. Almeida, J. Bombay Nat. Hist. Soc. 83(Suppl.): 222. 1986 [RUBIACEAE].

Katou-theka Rheede, Hort. Malab. 4: 59-60, t. 28. 1683.

The name Kattu thekku is not used; kattu means wild and thekku refers to *Tectona grandis*.

The name written in Malayalam script on t.28 is Kaattatakka, i.e., Kaattu (wild) + atakka (Areca nut), which is probably more correct because Rheede mentions that the fruits are frequently eaten with betel leaf, instead of Areca nut. Katou-theka (or Kaattutekka) as depicted in Roman script is probably the result of hearing the name incorrectly by the one (European) who recorded it.

No Malayalam name for this is known today in Malabar.

The place of occurrence mentioned is Warapoli, which is now called Varapuzha, where this plant is not seen today. It is now found only in forests far away from there.

Examine the following and write a short note on the same.

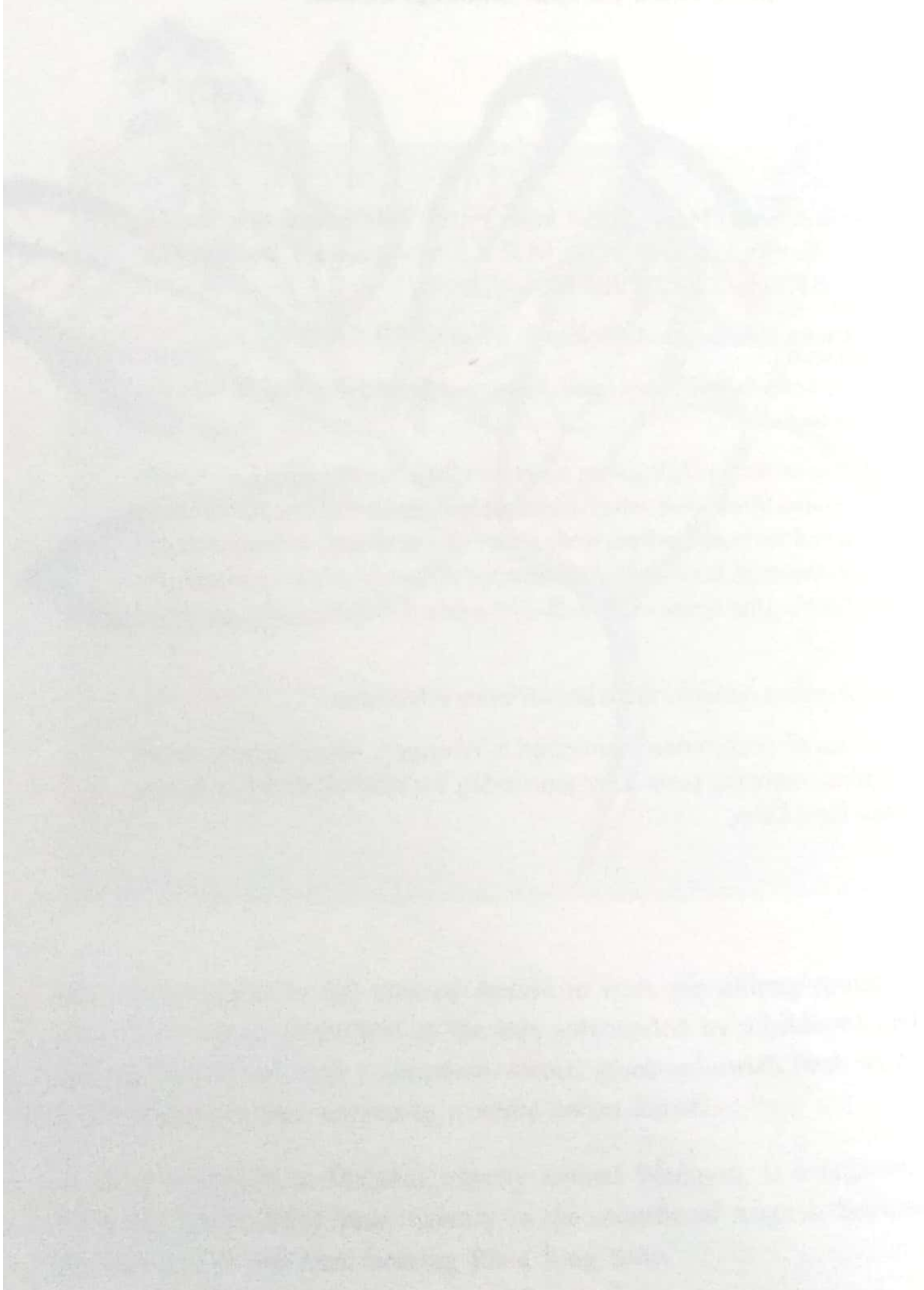
1. The following are the main features of the Indian economy.

(a) The Indian economy is a developing economy.

(b) The Indian economy is a mixed economy.

(c) The Indian economy is a free market economy.

(d) The Indian economy is a socialist economy.





Tsjerou-theka

FIG. 29.



THE *Tsjerou-Theka* of the Malabaris, *Douda-Sailo* of the Brahmins *Teka Crespa* of the Portuguese, *Netel Teka* of the Belgians, is a small, short tree about seven feet tall with a white stem a foot thick, covered with ash-coloured, bitter bark, and provided with many green, triangular and jointed branches.

Root white, of bitter taste, of woody smell.

Leaves in threes arise together around the nodes of the branches, are oblong-round, acuminate, crenate on the margin, shining with dark-green colour on the upper side, light-green and downy on the lower; the mid-rib thick, from which arise many riblets towards the upper side, boldly standing out and downy on the lower side; smell sweet, taste biting and bitter. However the tender leaves of this tree are reddish.

The flowers, not otherwise than the flowers of *Katou-Theca*, arise in racemes on the extremities (tips) of the shoots, are bluish, surrounded by the base of leaves, and adhere to a green and acuminate calyx, are formed of five oblong-round leaves twisted inwards, with five bluish stamens, provided with yellow

apices, and spread wide beyond the flower, occupying its middle cavity and centre, among which comes out the style from white to bluish and divided at the top. Smell sweet, taste light bitter.



Fig. 29

The fruits are sub-round, three sided, provided with a small 'naval' at the top, glabrous, shining, first dark purple, then dark, filled inside with soft flesh, to which are enclosed three very small, green kernels with sub-acid taste.

Grows everywhere in Malabar, especially in the Province of Moutan; always green (with leaves), produces flowers and fruits once a year.

(Its Uses)

For the rest, from the tree (stem) and leaves an oil is taken out (which), with butter is good for cephalagia (head ache) and ophthalmia (inflammation of the eye, especially conjunctiva), and to (induce) good sleep. A decoction of its root in water, with *Ginger* and *coriander* seeds, is efficient and powerful against nausea caused by stomach disorders. Fruit crushed in acidic milk is (given) against belly upset and dropsy (a morbid accumulation of watery fluid in any part of the body).

Clerodendrum serratum (L.) Moon, Cat. 46. no.382. 1824; Spreng., Syst. Veg. 2: 758. 1825; Alston, Ann. R. Bot. Gard. Peradeniya 2: 205. 1929; Mold. in Dassan., Rev. Handb. Fl. Ceylon 4: 417. 1983; Manilal & Sivar., Fl. Calicut 233. 1982; Manilal, Fl. Silent Valley 214. 1988; Sasidh. & Sivar., Fl. Thrissur 351. 1996; Sivar. & Philip, Fl. Nilambur 531. 1997. -*Volkameria serrata* L., Mant. 90.1767 [VERBENACEAE].

Tsjerou-theka Rheede, Hort. Malab. 4: 61-62, t. 29. 1683.

The name Cheru thekku (Malayalam script on t. 29) is not used for this species; cheru means small and thekku refers to *Tectona grandis*. No Malayalam name for this plant is known today. It grows in the highlands of Malabar.

Place name mentioned is Moutan, now called Muttam, a region south of Cochin.



Bentheka

FIG. 30.



THE tree which is called *Bentheka* by the Malabaris, *Kasilo* by the Brahmins, *Theka-Macho* by the Portuguese, *wit Theka* by the Belgians, although it does not seem to have any similarity with *Theka*, still is considered as its species by the Indians; is tall, with a dense white stem, covered with ash-coloured stem, and also provided with ash-coloured and glabrous branch-lets, spread in all directions.

Root dark, of woody taste and smell.

Leaves arise around the branch-lets without any order, are oblong round and drawn to a tip, on the upper side dark-green and shining, nearing (measuring) a span in length and a palm in width, odourless, insipid, a conspicuous round, on the lower side jutting out nerve runs from the base of the leaf to its tip, from which arise very many nerve-lets towards the upper part, which are carried into themselves in an arched manner.

Flowers very small, whitish-green and sweet smelling, arise in racemes and are attached to a small, green calyx, these consist of a single leaflet, but divided into five deep flaps, thus are seen to be many, with five yellowish and

acuminate fibres occupying the middle cavity of the floret; among which arise the erect style, with a green head.



Fig. 30

Oblong-round fruits follow the flowers with equal fertility, are first green then reddish, glabrous and shining, not dissimilar to tender fruits of *Areca*, inside filled with similar flesh inside which are contained many oblong-round, dark, glabrous, shining, and also less hard seeds, placed in a double series and separated by a membranous partition or by a whole (intact) wall; taste sour, smell nil.

Grows in mountainous and sandy places of Teckencour; is ever green, flowers and bears fruits every year and remains long, fruit bearing.

(Its Uses)

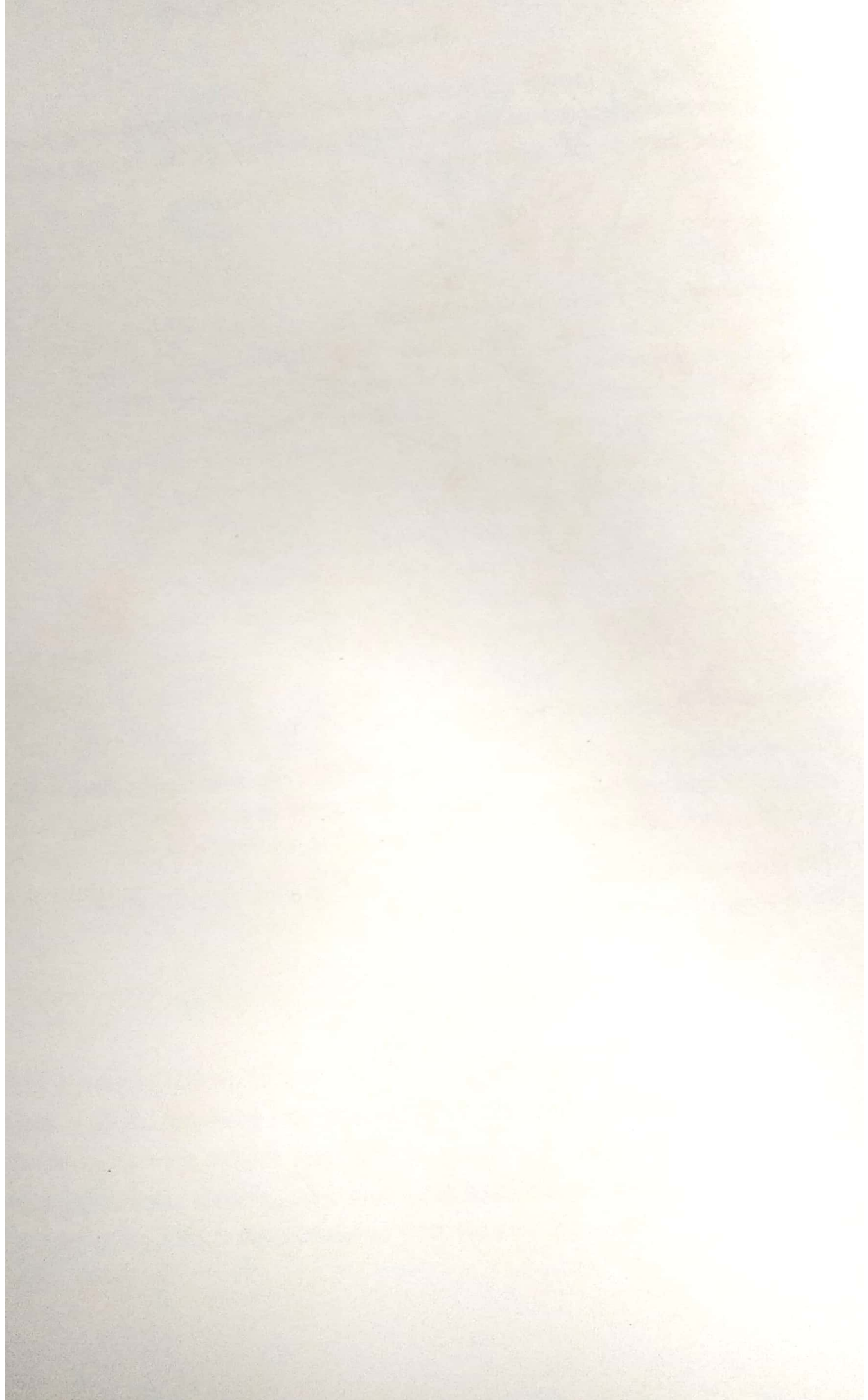
Moreover, from the leaves of the tree a medicine is prepared with honey, which when administered sedates feverish heat (heat of the fever) exciting sweating and drives out chicken-pox.

Hymenodictyon orixense (Roxb.) Mabb., Taxon 31: 66. 1982 Sasidh. & Sivar., Fl. Thrissur 223. 1996; Sivar. & Philip, Fl. Nilambur 329. 1997. - *Cinchona orixensis* Roxb., Bot. Descr. Swietenia 21. 1793. *Cinchona excelsa* Roxb., Pl. Corom. 2: 4, t. 106. 1799. *Benteca rheedei* Roem. & Schult., Syst. Veg. 4: 706. 1819 ("Benteka rheedi"). *Hymenodictyon excelsum* (Roxb.) Wall. ex DC., Prodr. 4: 358. 1830; Ridsdale in Manilal, Bot. Hist. Hort. Malab. 130. 1980. *Kasailo racemosa* Dennst. ex Kostel., Allg. Med.-Pharm. Fl. 5: 2005. 1830, nom. illeg. (incl. type of *Benteca rheedei* Roem. & Schult. 1819). *Benteca odorata* Raf., Sylva Tellur. 13. 1838, nom. illeg. (incl. type of *Benteca rheedei* Roem. & Schult. 1819). *Hymenodictyon rheedei* (Roem. & Schult.) M. R. & S. M. Almeida, J. Bombay Nat. Hist. Soc. 83(Suppl.): 223. 1986 [RUBIACEAE].

Ben-theke Rheede, Hort. Malab. 4: 63-64, t. 30. 1683.

The name Venthekku [Malayalam script on t. 30] is not used for this plant now, but is used for *Anogeissus latifolius*. Ven means white and thekku means *Tectona grandis*, a reference to the white stem. It is now rare in Malabar.

Place name mentioned is Teckencour, now of the same name and is the region south of Kottayam.





I r i p a

FIG. 31.



RIPA of the Malabar, *Iripou* of the Brahmins, *Fruita Bolsa* of the Portuguese, *Tas-noten* of the Belgians, is a tall tree, almost sixty feet tall, with a thick, dense stem, covered with ash coloured, black, inside red bark, and also provided with very many ash-coloured and light green branch-lets.

Root reddish, covered with a yellowish bark, and also with its fibres spread wide through soil; taste pungent, smell nil, taste slightly biting.

Flowers arise sparsely around the small branches, are small, white, odourless, formed of four acuminate leaflets, eight small stamens provided with red apices (heads) come between these leaflets, with a white style occupying the middle, which is the rudiment of the fruit itself.

Fruits are oblong- round, pressed together, unequal and striated with furrows, not dissimilar to the shape of gourd covered with a thick, leathery and also fleshy, soft and cushion like rind, in the manner of almond: which, when the fruits reach maturity, dehisces on both sides, and opens itself and liberates a

whitish dense, compact, odourless kernel of biting taste, surrounded by a thin membrane.



Fig. 31

Grows around Repolyn and other places of Malabar, is evergreen and flowers and bears fruits every year in the months of August and November.

(Its Uses)

Moreover, the roots of this tree move bowels. From the leaves cooked in cow's lotion (urine?) with the addition of honey, a drink is prepared, which is said

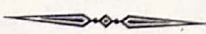
to cure scabies, leprosy and other skin affections. From the same leaves, cooked in sweet milk along with the leaves of *Mangas*, a plaster is made, which heals Ictero (jaundice?) asthma, obstructed fermentation of food in the belly, and the head-ache originated from it. From the fruits, an oil is made against scabies and other skin affection.

Cynometra iripa Kostel., Allg. Med.-Pharm. Fl. 4: 1341. 1835; Knaap van Meeuwen, Blumea 18: 21. 1970. -*Cynometra ramiflora* var. *mimosoides* Baker in J. Hook., Fl. Brit. India 2: 267. 1878 [FABACEAE].

Iripa Rheede, Hort. Malab. 4: 65-66, t. 31. 1683.

The name Iripa [Malayalam script on t. 31] is still used. It is found in mangrove swamps but is getting increasingly scarce in Malabar.

Place of occurrence mentioned is Repolyn, which is now known as Edappalli, a northern suburb of the city of Cochin.



Kalesjam

FIG. 32.



ALESJAM of the Malabar. *Mourmourataram* of the Brahmins, *Bainhero* of the Portuguese, *Twee-lessen* of the Belgians, is a tall and mostly beautiful tree, almost measuring sixty feet in height, and seven feet in thickness, provided with many ash coloured branches, spread far and wide in all directions; wood dark-purple, glabrous, flexible, covered with a black, thick soft bark, white inside, which when wounded with cuts anywhere, becomes purple immediately.

Root fibrous, white, covered with dark bark, of woody smell and taste.

Leaves adhere to small, tender branches in a parallel double fashion (order) are oblong round, glabrous, soft, on the upper side shining with dark-green colour, on the lower with light green (colour) with some nerves running from the mid-rib to the sides; smell and taste woody.

Flowers arise at the tip of small branches in racemes, are very small, very similar to the florets of vine, are odourless, and adhere to a very small, light green calyx, formed of four acuminate and green-yellow leaflets, with eight

short white stamens with yellowish heads, occupying the middle; among which the yellow style the rudiment of the fruit itself, comes out.

Fruits follow the flower with equal fertility, and likewise arise in racemes like grape-vine or black-berries and are oblong-round, compressed, green berries



Fig. 32

surrounded by a thin rind, and are inside fill with succulent and insipid flesh, inside which is placed a green oblong, compressed stone, enclosing a white and almost insipid kernel.

Moreover, besides these genuine fruits of this tree, which follow the flowers, others arise on the stem and branches of the tree, and which therefore are to

be called fungi rather than fruits; these are bigger than the genuine fruits, are wrinkled, kidney shaped, covered with a light green rind, and inside filled with a dense, but humid flesh of bitter taste, inside which is harboured a very small and reddish worm. These supposed fruits not rarely than frequently and indeed they are attached to the branches in racemes, so that an inexperienced man may easily conclude that they are true fruits.

Grows everywhere in Malabar, namely in rocky places and also on the roofs of very old buildings; gives mature fruits every year, in the months of November and December: when however it flowers the old leaves fall, especially in those places where the flowers come out, and from the tenth year of planting up to the fiftieth year or above it remains fruitful.

(Its Uses)

From the wood of this tree sheaths of swords and knives are made. The bark powdered and made into the form of an ointment with butter, heals spasm and other convulsions originated from serious wounds: likewise it heals any malignant ulcer and arthritic pains. Moreover the juice of this bark cures asthma and when taken is a remedy for dysentery. The same bark along with the bark of *Kodampulli*, reduced to powder and administered, moves bowels and ejects phlegmatic and "artrabilarios" fluids. From the leaves and bark boiled in water a "semicupium" is made for women preparing for delivery, so that the delivery may become more easy and more happy.

Lannea coromandelica (Houtt.) Merr., J. Arnold Arb. 19: 353. 1939; Manilal & Sivar., Fl. Calicut 72. 1982; Meijer in Dassan., Rev. Handb. Fl. Ceylon 4: 21. 1983; Manilal, Fl. Silent Valley 66. 1988; Sasidh. & Sivar., Fl. Thrissur 122. 1996. - *Dialium coromandelicum* Houtt., Nat. Hist. ser. 2, 2. 39, t. 5, f. 2. 1774. *Odina wodier* Roxb., Pl. Ind. 2. 293. 1832. *Rhus odina* Ham., Trans. Linn. Soc. London 17(2): 189. 1835, nom. illeg. (incl. *Odina wodier* Roxb. 1832). *Calesiam malabarica* Raf., Sylva Tellur. 12. 1838 ("Calsiama"). *Lannea grandis* Engl., Pflanzenfam. Nachtr. 1: 213. 1897, nom. illeg. (incl. type of *Odina wodier* Roxb. 1832) [ANACARDIACEAE].

Kalesjam Rheede, Hort. Malab. 4: 67-68, t. 32. 1683.

The name Kalasam [Malayalam script on t. 32] is still used. Kalesjam [or Kalam] is from the word Kalam, meaning pot, probably indicating the cup [made out of this], used as a cover of breast by women nearing delivery period. It grows throughout Malabar.



Katou-kalesjam

FIG. 33.



ATOUCALESJAM of the Malabar, *Moemoe* of the Brahmins, *Arvore da folha Parida Macho* of the Portuguese, is a tree of medium size, rarely exceeding the measurement of twenty feet in height and seven feet in thickness, and provided with many knotted branches, from which finally come out small foliaceous branches elegantly spread out in all directions, wood white, very hard, armed (covered) with a dark, rough, thick, soft bark, light green inside.

Root whitish, covered with a dark bark, without smell, insipid.

Leaves, similar to the leaves of the preceding species, but dense, fragile and serrate in the margin.

Flowers in racemes are attached to oblong shoots, and come out from a light yellow calyx divided into five acuminate flaps, formed of five thick, dense, acuminate, yellow leaflets, twisted outwards, with eight citrus-like, acuminate stamens in the middle; among which comes out a green yellow style with a green, globose head.

Fruits globose, glabrous, light green, covered with a thin membrane, inside filled with a dense, succulent, light green flesh of biting taste; inside which are placed five red stones, or rather seeds akin to pear in shape, containing a white, sweet-bitter, pungent kernel.



Cātu-Calesjam. Ind.

കുറ്റുകലമ. mal.

فاحو قوالهشيم Arab.

Fig. 33

Grows in sandy places around Cochin gives mature fruits every year, and remains long fruitful: but when flowers, namely in the months of September and October, old leaves fall down, as has been said about *Kalesjam*.

(Its Uses)

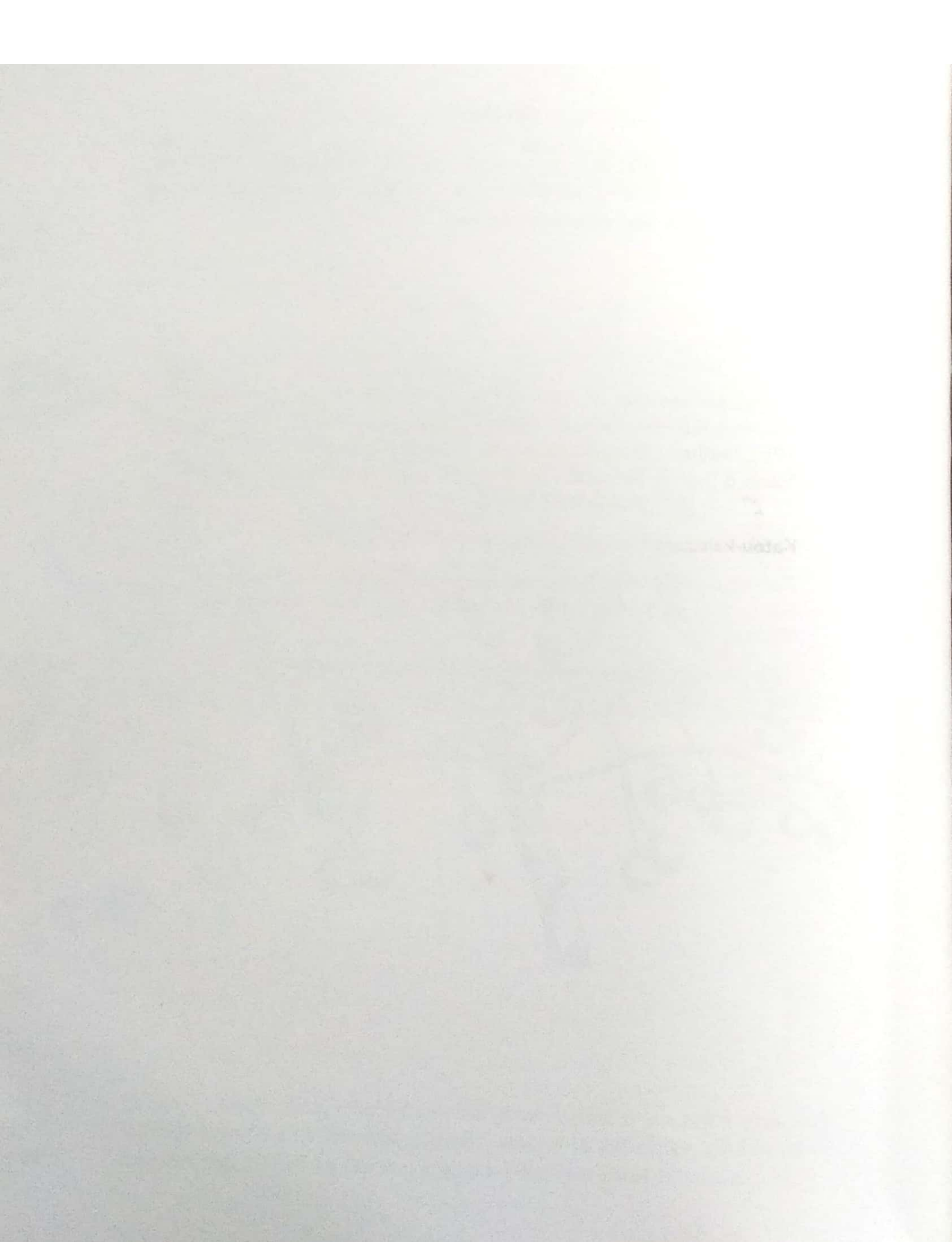
Moreover, leaves of this tree are used in different ways both internally and externally for various liver affections and from these are prepared plasters, decoctions, poultice and similar medicines.

Garuga pinnata Roxb., Pl. Corom. 3: 5, t. 208. 1811; Roxb., Hort. Beng. 33. 1814; Kalkman, Blumea 7: 468. 1953; Manilal & Sivar., Fl. Calicut 63. 1982; Matthew & Brit to in Matthew, Fl. Tamilnadu Carn. 3(1): 229. 1983; Sasidh. & Sivar., Fl. Thrissur 87. 1996. -*Kunthia cochinensis* Dennst., Schlüssel 12, 22, 30. 1818 [BURSERACEAE].

Katou-kalesjam Rheede, Hort. Malab. 4: 69- 70, t. 33. 1683.

The name Kattu kalasam [Malayalam script on t. 33] is still used; kattu means wild and kalasam refers to *Lannea coromandelica*. It grows throughout Malabar.

The place name mentioned is Cochin, of the same name now also.





Ben - Kalesjam

FIG. 34.



LHIS tree is called *Ben Kalesjam* by Malabaris, *Mourmoura* by Brahmins, *Arvor da folha Parida* by the Portuguese, *Loof-appel* by the Belgians; is of medium size, with medium thick, rough and knotted stem, provided with many green and knotted branches spread far and wide in all directions; wood white, smelling, covered with a thick, ash coloured bark, white inside.

Root thick, fibrous, white, covered with a red, scaly bark, smell sweet, taste, sharp and aromatic.

Leaves in pairs adhere to branch-lets in a parallel order, are oblong-round, glabrous, dark-green and shining on the upper surface, on the lower light green and downy, somewhat cremate in the margin, with some nerves running into the sides from a mid-rib, unequally dividing the leaf longitudinally in the middle: smell sweet, taste biting.

This tree either does not bear flowers or at least not conspicuous ones. Fruits however arise at the origin of the leaves, or rather sit on (are arranged to)

the leaves themselves (not otherwise than oak-apples arise on oaks), are numerous, oblong-round, acuminate, first green, then purple, glabrous, shining, hollow inside and filled with a powdery substance, inside which one or two winged insects of the genus of butterflies are sheltered; taste aqueous and light biting.



Fig. 34

Grows everywhere in Malabar and frequently is cultivated in the fields for their leaves which are usually collected for manuring fields and gardens: in the fifteenth year after planting, finally shows fruits on the surface of the leaves, is evergreen, and survives long.

(Its Uses)

This tree howeve, has the same use in medicine as *Kalesjam*.

Garuga pinnata Roxb., Pl. Corom. 3: 5, t. 208. 1811; Roxb., Hort. Beng. 33. 1814; Kalkman, Blumea 7: 468. 1953; Manilal & Sivar., Fl. Calicut 63. 1982; Matthew & Brit to in Matthew, Fl. Tamilnadu Cam. 3(1): 229. 1983; Sasidh. & Sivar., Fl. Thrissur 87. 1996. -*Kunthia cochinensis* Dennst., Schlüssel 12, 22, 30. 1818 [BURSERACEAE].

Ben-kalesjam Rheede, Hort. Malab. 4: 71-72, t. 34. 1683.

The name Venkalasam [Malayalam script on t. 34] is not used; ven means white and kalasam refers to *Lannea coromandelica*. These are actually gall-bearing plants of Kattu kalesjam. It occurs in the coastal plains of Malabar.



Ponga

FIG. 35.



ONGA of the Malabar, *Helay* of the Brahmins, *Masao-Spinosa* of the Portuguese, *Boom-clissen* of the Belgians, is a tall tree, almost forty feet tall, with a thick, very hard, ash-coloured stem, covered with a dark, glabrous, odourless and insipid bark, and also provided with many glabrous, red, branches, inside white and hard.

Root red, without smell, insipid

Leaves arise without any order on thick, round, and dark petioles around small branches, are oblong-round, acuminate, dense, glabrous, shining with dark green colour on the upper-surface, on the lower with light green colour, with some nerves boldly standing out on the lower side, running to the sides from the mid-rib, smell woody and unpleasant, taste nil.

Flowers, this tree either bears none or at least not conspicuous ones. The fruits are attached to the branches themselves and arise not otherwise than *Tsjaka*, whence it is called *Tsjaka do Mato* by the Portuguese, i.e., *wild Tsjaka*. They are however 'echinate' cups, stinging, similar to "erinaceis", first green,

then red, in which are contained many oblong-round, acuminate and red seeds, of woody smell and taste.



Fig. 35

Grows in sandy and mountainous places around Cranganoor, is always green and bears fruits always.

(Its Uses)

From the crushed green fruits of this tree a plasma is made, which when placed over boils, powerfully promotes their supuration (ripening). From the bark and the root boiled in water a poultice is prepared, which cures the

inflammation coming upon oedematic swellings of knees (a sickness endemic to Indians and called *Pedo St. Thome* by the Portuguese).

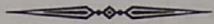
Hopea ponga (Dennst.) Mabb., Taxon 28: 587. 1979; Manilal & Sivar., Fl. Calicut 42. 1982; Sasidh. & Sivar., Fl. Thrissur 56. 1996; Sivar. & Philip, Fl. Nilambur 73. 1997. -*Artocarpus ponga* Dennst., Schlüssel 15, 18, 30. 1818; Manitz, Taxon 17: 499. 1968. *Hopea wightiana* Wall. ex Wight & Am., Prodr. 1: 85. 1834; Jarrett, J. Arnold Arb. 41: 138. 1960 [DIPTEROCARPACEAE].

Inga, Pongu Rheede, Hort. Malab. 4: 73- 74, t. 35. 1683.

The name Pongu [Malayalam script on t. 35] is not used now in Malayalam but is used in Tamil. The name used today in Malabar is Irumbagam. [The word Pongu in Malayalam today denotes the sponge-like structure developed inside the germinating coconut seed]. This plant is very common along the west coast of Malabar and the galls are characteristic.

Place name mentioned is Cranganoor, now called Kodungalloor.

1. The first part of the report is a general introduction to the subject of the study. It includes a brief history of the subject and a statement of the purpose of the study.



Kariil

FIG. 36.



KARIIL of the Malabarais, *Zalico* of the Brahmins, *Satirao* of the Portuguese, is a tree of great size, almost fifty feet tall, with a thick, dense, white stem covered with a thick, ash -coloured bark of biting taste and provided with green-whitish branches, filled inside with a fungous matrix (as is seen in Sambuco)

Root dark, of bitter taste, earthy smell.

Leaves arise in threes or fives joined together on long petioles around small branches, are oblong-round, and drawing to a tip, dense glabrous, dark-green and shining on the upper side, on the lower light green, with some nerves standing out on the lower side and running to the sides from the mid-rib; smell woody, taste slightly bitter.

Flowers similarly arise in racemes on long petioles around small branches, are bluish, sweet smelling, and are placed in green, round calyx, formed of five sub-round leaflets, twisted outwards, with a bluish style occupying the middle.

Fruits succeed the flowers with equal fertility, are placed in a calyx like (in the manner of) acorn, are oblong-round, approaching (similar to) wild prunes light green, glabrous, and filled with soft humid, viscid and white flesh, which, when the fruits dehisc, soon thickens and turns purple; smell unpleasant, taste bitter; inside the flesh is placed an oblong-round stone, containing a bitter-sweet, white kernel.



Fig. 36

Grows in different places of Malabar, chiefly around Moutan, is always green, flowers and gives fruits every year, namely in the months of July and August.

(Its Uses)

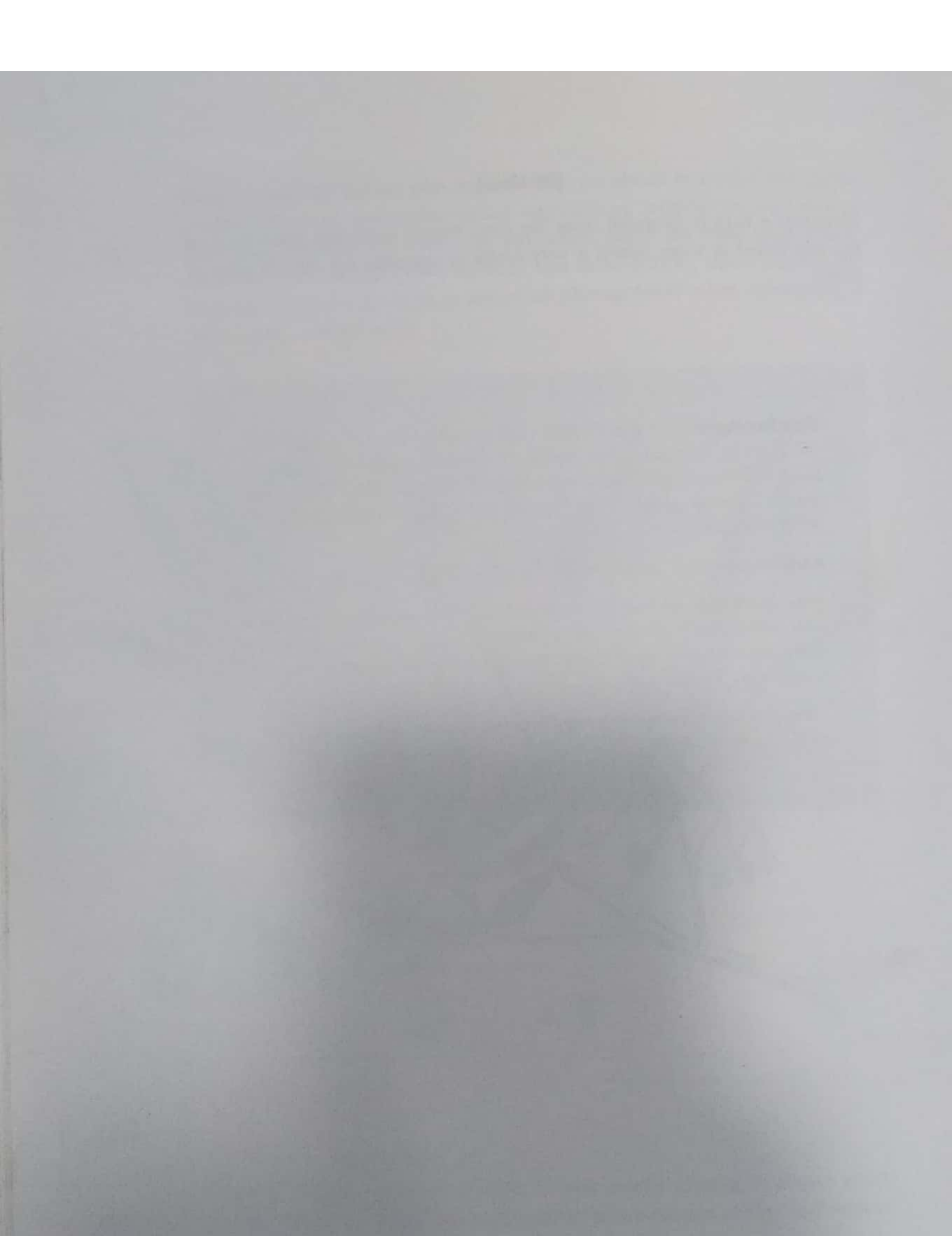
Moreover a bath is prepared from the root, leaves, fruits and other parts of this tree boiled in water, which is very useful in removing any kind of pains of joints.

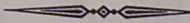
Vitex leucoxylon L.f., Suppl. Pl. 293. 1782; Manilal & Sivar., Fl. Calicut 228. 1982; Mold. in Dassan., Rev. Handb. Fl. Ceylon 4: 365. 1983; Sasidh. & Sivar., Fl. Thrissur 355. 1996; Sivar. & Philip, Fl. Nilambur 540. 1997. -*Vitex rheedei* Kostel., Allg. Med.-Pharm. Pl. 3: 826. 1834 ("*rheedii*") [VERBENACEAE].

Kariil Rheede, Hort. Malab. 4: 75-76, t. 36. 1683.

The name Kaarel (Malayalam script on t. 36) is not used now. The plant is now called Mayila. Mayila means grey [or also black-spotted], perhaps a reference to the ash coloured bark. It occurs in highland areas of Malabar, particularly in forests.

The place of occurrence is mentioned as Moutan, which is Muttam, a region south of Cochin.





Vidimaram

FIG. 37.



IDIMARAM of the Malabiees, *Quarenna* of the Brahmins, *Fruita d'entrude* of the Portuguese, *Cleef pruymen* of the Belgians, is a tall tree of medium size, with a thick, white stem, covered with a thick, scaly dark bark, striated with purple lines; of unpleasant smell, and evoking soap water, and also provided with very many ash-coloured small branches.

Root whitish, covered with a dark bark, insipid, without smell.

Leaves arise without any order around small branches, on rather long petioles, are oblong round, acuminate, slightly crenate in the margin on one side (?), dense, shining with dark-green colour on the upper side, with light green colour on the lower side; a thicker nerve passes along the length of the leaf, and besides, on each side a thinner one, so that there are three in all, from which other slender nerves run transversely; smell unpleasant and like that of camp-flowers, taste greasy.

Flowers are white and sweet smelling and arise on long petioles in racemes, around small branches, and are placed in green, oblong and acuminate calyx,

formed of six oblong-round acuminate, thick leaflets, twisted outwards, with as many whitish stamens provided with yellow heads, occupying the middle; among which is a small, light green globule from which six or at the most seven slender and white filaments arise.



Fig. 37

Fruits follow the flowers with equal fertility, and are placed (and sit on) in a round and thick calyx, are oblong-round with a tip at the top, otherwise not dissimilar to our acorns both in shape and size, are light green, glabrous,

soft, clothed with a thin membrane and filled inside with a transparent, mucilaginous, viscid flesh of first acid taste, then sweet; inside which is placed a red oblong, quadrangular stone, containing a white, sweet-bitter kernel. Grows in different places of Malabar, chiefly around Bardella, in places namely marshy and watery, is always green, every year bears mature fruits namely in the months of July and August and not rarely remains fruit-bearing till the sixteenth year.

(Its Uses)

Moreover, these fruits are pickled with salt and vinegar into *Atsjar*; ripe ones eaten, but leaves the stomach contracted. From the bark of this tree a juice is pressed out which, when administered along with the infusion of rice and concentrated juice of Indian nut, sedates the vehement pains of bowels (which the Portuguese call *Tripas Subidas*, i.e., *spasm of intestines*), the same juice, when smeared over corns of feet, softens them and gradually removes them, root taken in any manner, moves bowels. From the leaves cooked in ordinary water, adding certain specific things, a decoction is made, which many natives are accustomed to use every year for forty continuous days, against pains of joints and obstructions of certain intestines. The juice pressed out from the leaves and mixed with the powder of certain shell-fish into the ointment, removes foul blemishes of the face and the whole body, if they are smeared with it.

Cordia obliqua Willd., Phytogr. 4, t. 4, f. 1. 1794; Willd., Sp. Pl. 1: 1072. 1797; Kazmi, J. Arnold Arb. 51: 142. 1970; Manilal & Sivar, Fl. Calicut 178. 1982 [BORAGINACEAE].

Vidimaram Rheede, Hort. Malab. 4: 77-78, t. 37. 1683.

The name Vithimaram [Malayalam script on t. 37] is still used; Vithi from Vitatham meaning cluster [referring to the many clustered fruits] and maram meaning tree. It grows in the highland areas of Malabar.

The place name mentioned is Bardella, which is a narrow strip of land towards the south of Cochin and east of Muttam.



Ponna

FIG. 38.



HIS tree is called *Ponna* or *Ponnamaram* and its fruits *Ponnaea* by the Malabaris and also by the Portuguese, *Octi* by the Brahmins, *Geele gom-appels* by the Belgians, is of great size, approaching almost the measure of ninety feet in height and twelve feet in thickness; provided with many branches spread far and wide in all directions, which are protected with a glabrous bark, first green, then reddish, when cut they give out a white liquid; wood white, covered with a thick scaly, black bark, inside purple, and this when wounded pours out yellowish, viscid, and sticky tears, which is not rarely dried into the hardness of gum by the heat of the sun.

Root fibrous, white, clothed with yellow bark, of woody and unpleasant smell, of biting taste.

Leaves arise in pairs in a parallel order on short petioles around the small branches, are oblong round, not dissimilar to the leaves of water-lily, are thick dense, glabrous, shining, dark black on the upper surface, on the lower light-green, golden in the margin; the mid-rib thick, and very much jutting

out on the lower side, from which innumerable, slender, and almost invisible nerves run towards the upper part, and altogether disappear beyond the middle of the leaf; smell woody, taste acidic.



Fig. 38

Flowers arise in racemes on long petioles around the topmost branch-lets. Are trifoliate, not dissimilar to the flowers of *Hepatica* both in shape and size, formed of eight, white, thick, round and spoon shaped leaflets; with a dense mass of green stamens, endowed with yellow heads, occupying the middle cavity and centre of the floret; among which emerges a white style; smell sweet, taste nil.

Quite in the same manner, fruits appear on the branch-lets, are round, glabrous, green, shining, mature ones however becoming reddish, covered with a thick, fleshy, soft and cushioned rind of acid-bitter taste, in the manner of walnut: underneath this is a shell, or white, woody bark, enclosing oblong-round kernel, from whitish to yellowish of first sweet, then very bitter taste; which when cut (otherwise than the bark of the tree), pours out citrinous and resinous tears.

Grows everywhere in Malabar, chiefly in sandy places, especially around Aregatti; bears flowers twice every year, namely in the months of March and September and not rarely remains fruit-bearing for three hundred years.

(Its Uses)

From the dried kernels of the fruits, an oil is pressed out, which is used for burning in lamps for conserving the flame of the lamp. And the same oil pleasantly removes pain when smeared on aching members (limbs). Moreover from such old oil an ointment is prepared with yellow wax, which cures scabies. From the bark and leaves of this tree cooked in ordinary water, an excellent eye-salve is made. From the bark taken from the root and macerated in vinegar, an extract is prepared which cures cephalgia (head ache) if the head is rubbed with it. The tears pouring out from the tree and the fruits collected and administered, excites vomiting, moves bowels and thus vehemently clears fluids up and down.

Calophyllum inophyllum L., Sp. Pl. 513. 1753; Bamps et al. Fl. Trop. E. Africa, Guttif. 3. 1978; Kosterm. in Dassan., Rev. Handb. Fl. Ceylon 1: 90. 1980; Stevens, J. Arnold Arb. 61: 324. 1980; Manilal & Sivar., Fl. Calicut 41. 1982 [CLUSIACEAE].

Ponna Rheede, Hort. Malab. 4: 79-80, t. 38. 1683.

The name Punna (Malayalam script on t. 38) is still used. Ponna is from Ponnakam, i.e, inside (hiding) gold, a reference to the yellowish round kernel inside the thick, dark, woody rind. It is very common in the coastal region of Malabar.

Place name mentioned is Aregatti, which is perhaps the present Aragattu.

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Tsjerou-ponna

FIG. 39.



THE tree which is called *Tsjerou-Ponna* by Malabaris, *Cit-octi* by the Brahmins, *Ponnaca Pequeno* by the Portuguese, *Cleyne geele gom-appelen* by the Belgians, although is said to be a smaller species of the preceding tree, yet is equally tall, with shady fronds spread wide; wood very hard, red, surrounded by thick and black bark, like *Ponna*.

Root red, inside also, covered with crimson red bark of woody and unpleasant smell, of biting taste: when it is however cut, gives out yellowish and resinous tears.

Leaves, similar to the leaves of the preceding variety, but smaller.

Similarly, the flowers similar to the flowers of *Ponna*, except that it is formed of not eight but mostly of four leaflets.

Fruits, oblong-round, glabrous, first green, then reddish, acid-sweet, not dissimilar to our cornel fruits both in size and shape and substance.

Grows in sandy places; bears fruits every year, namely in the months of August and September, and remains fruitful for a long-time.



Fig. 39

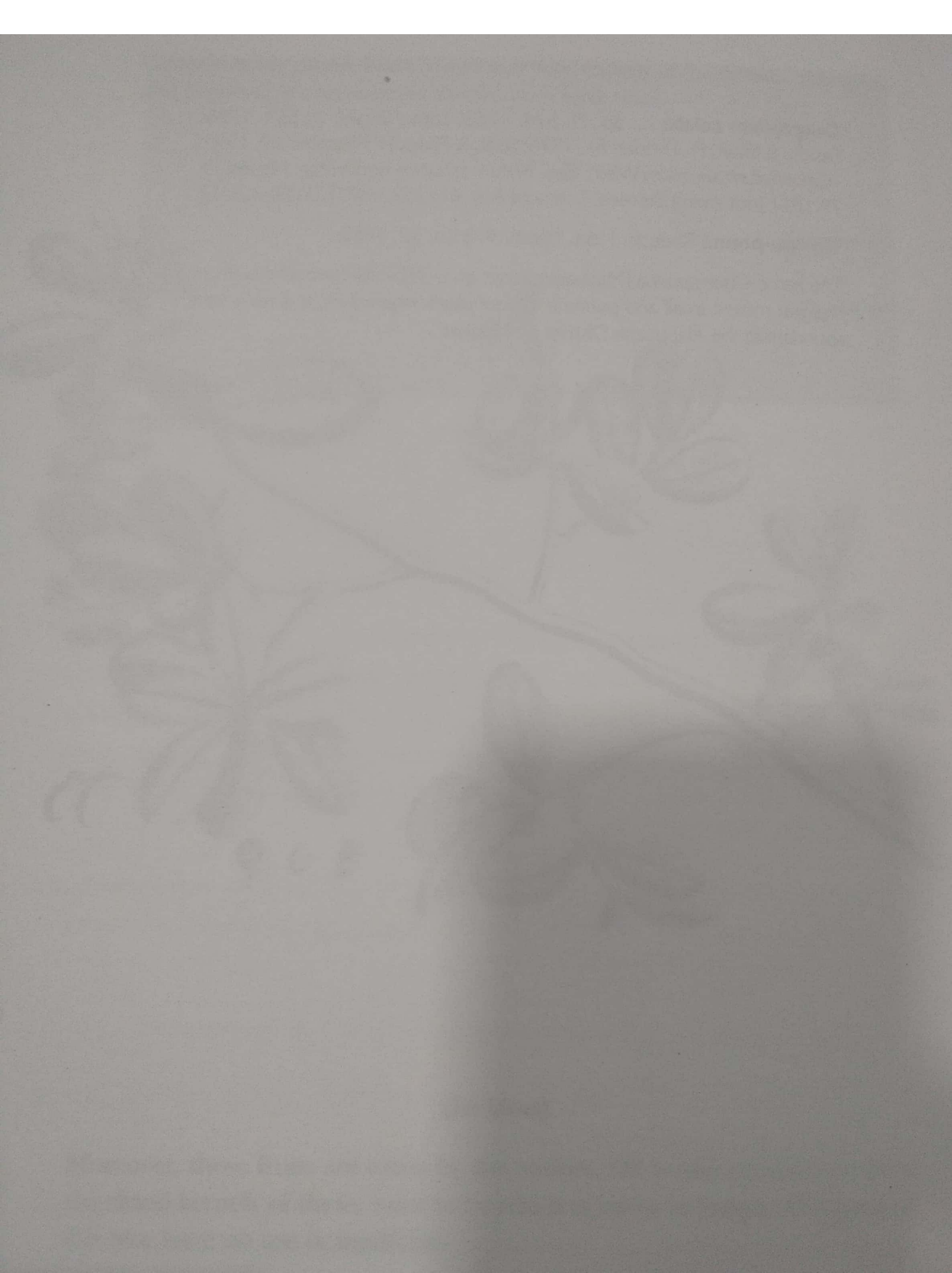
(Its Uses)

Moreover, these fruits are eaten by the natives. Oil is also pressed out from the dried kernels of these, wont to be which is burnt in lamps. The parts of this tree have no use in medicine.

Calophyllum calaba L., Sp. Pl. 514. 1753; Lam., Encycl. 1: 553. 1785; Sasidh. & Sivar., Fl. Thrissur 51. 1996; Sivar. & Philip, Fl. Nilambur 67. 1997. - *Calophyllum apetalum* Willd., Ges. Naturf. Freunde Berlin Mag. Neuest. 5: 79. 1811 (not seen); Stevens, J. Arnold Arb. 61: 253. 1980 [CLUSIACEAE].

Tsjerou-ponna Rheede, Hort. Malab. 4: 81, t. 39. 1683.

The name Cheru punna [Malayalam script on t. 39] is still used; cheru (from cheriya) means small and punna is *Calophyllum inophyllum*. It is now very abundant in the Alappuzha District of Malabar.





Mallam-toddali

FIG. 40.



HIS tree is called *Mallam-Toddali*, i.e., *Mountain Toddali*, by the Malabaris, *Chori-bori* by the Brahmins, *Tarilla d'Cagoa* by the Portuguese, *Narren-Pluegmen* by the Belgians, is of medium size, with a thick, dense, white stem, covered with a dark and glabrous bark, and also provided with light green and downy branches.

Root white, surrounded by red bark, taste bitter and sharp, smell aromatic.

Leaves alternately adhere to branch-lets by means of short and downy petioles, are oblong-round, acuminate, in the margin serrate, hard and rough, dark green on the upper side, light green on the lower, with some nerves running to the sides from the mid-rib, taste sharp and 'contracting', smell sweet.

Florets arise in racemes around the small branches towards the origin of the leaves, and are small, light green buds, giving out transversely from the tip two very white stamens, beset with hairs like a feather, like two very thin horns; no smell, taste sharp. These mature buds form the fruits, and these are very small green berries, filled with succulent and bitter flesh, inside which is placed a very small glabrous, red stone with a kernel inside with the taste emulating that of the kernels of cherries.

Grows in mountainous places however wet with frequent showers, and also on the banks of rivers around Combotto; bears fruits every year, namely in the months of September and October, and not rarely remains fruitful for sixty years.



Fig. 40

(Its Uses)

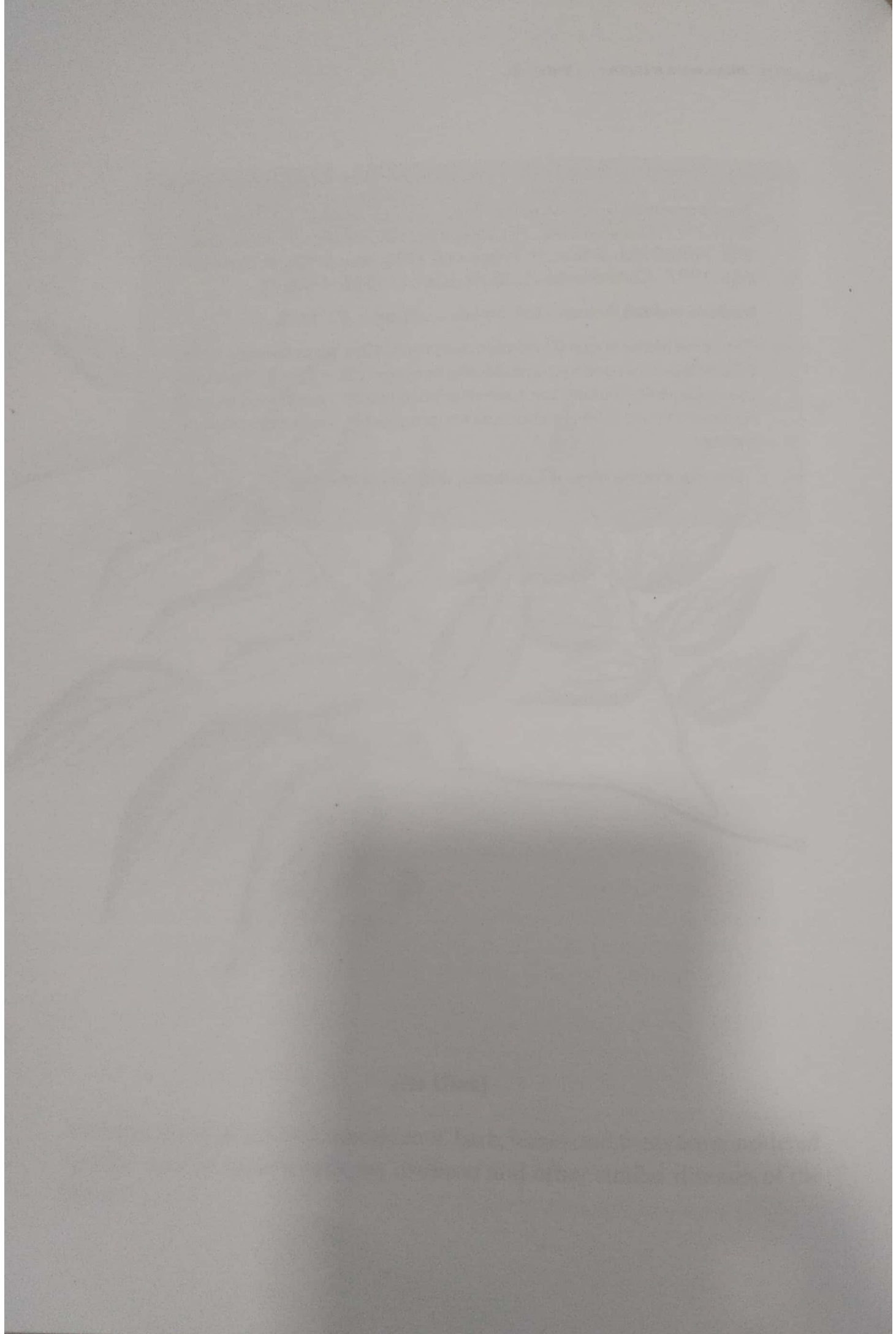
Moreover, parts of this tree, namely root, bark, leaves and fruits are considered specific remedy against epilepsy, madness and other similar diseases of the brain.

Trema orientalis (L.) Bl., Mus. Bat. 2: 62. 1856; Soepadmo in Fl. Males. I, 8: 51. 1977; Manilal & Sivar., Fl. Calicut 274. 1982; Manilal, Fl. Silent Valley 258. 1988; Sasidh. & Sivar., Fl. Thrissur 424. 1996; Sivar. & Philip, Fl. Nilambur 656. 1997. - *Celtis orientalis* L., Sp. Pl. 1044. 1753 [ULMACEAE].

Mallam-toddali Rheede, Hort. Malab. 4: 83-84, t. 40. 1683.

The name Malamtudali (Malayalam script on t. 40) is not in use now. Mala means mountain and tudali could refer to a waist chain (tudal). The name used today is Karimaram, kari means black and maram means tree, the wood had been in use to make charcoal for gunpowder. It occurs throughout Malabar.

The place name given is Combotto, which is not identified.



—

Perin-toddali
OR
Jujube Indica, B. pin

FIG. 41.



PERIN-TODDALI of the Malabarais, *Bori* of the Brahmins, *Tarilla* of the Portuguese, *Doorn-kerssen* of the Belgians, is a tall tree, with a thick stem, covered with a white, fibrous, dark bark, reddish inside, and also provided with branches, first green and downy, then reddish, spread far and wide in all directions, which are moreover protected by sharp and rigid spines at the base of the leaves.

Root fibrous, white, covered with a purple bark, inside dark, without smell, insipid.

Leaves arise alternately on round petioles around small branches, near the spines, are oblong round, thick, dense, dark-green and shining on the upper surface, on the lower light green and downy, with a few nerves running to the sides from the mid-rib; smell and taste woody.

Florets arise, many joined together, around the branch-lets, at the origin of the leaves, formed of five round, white green striped leaflets expanded (spread) in all directions; these leaflets come in between as many white stamen

equipped with yellow apices, with a green and bifid style occupying the middle: smell unpleasant and foul.

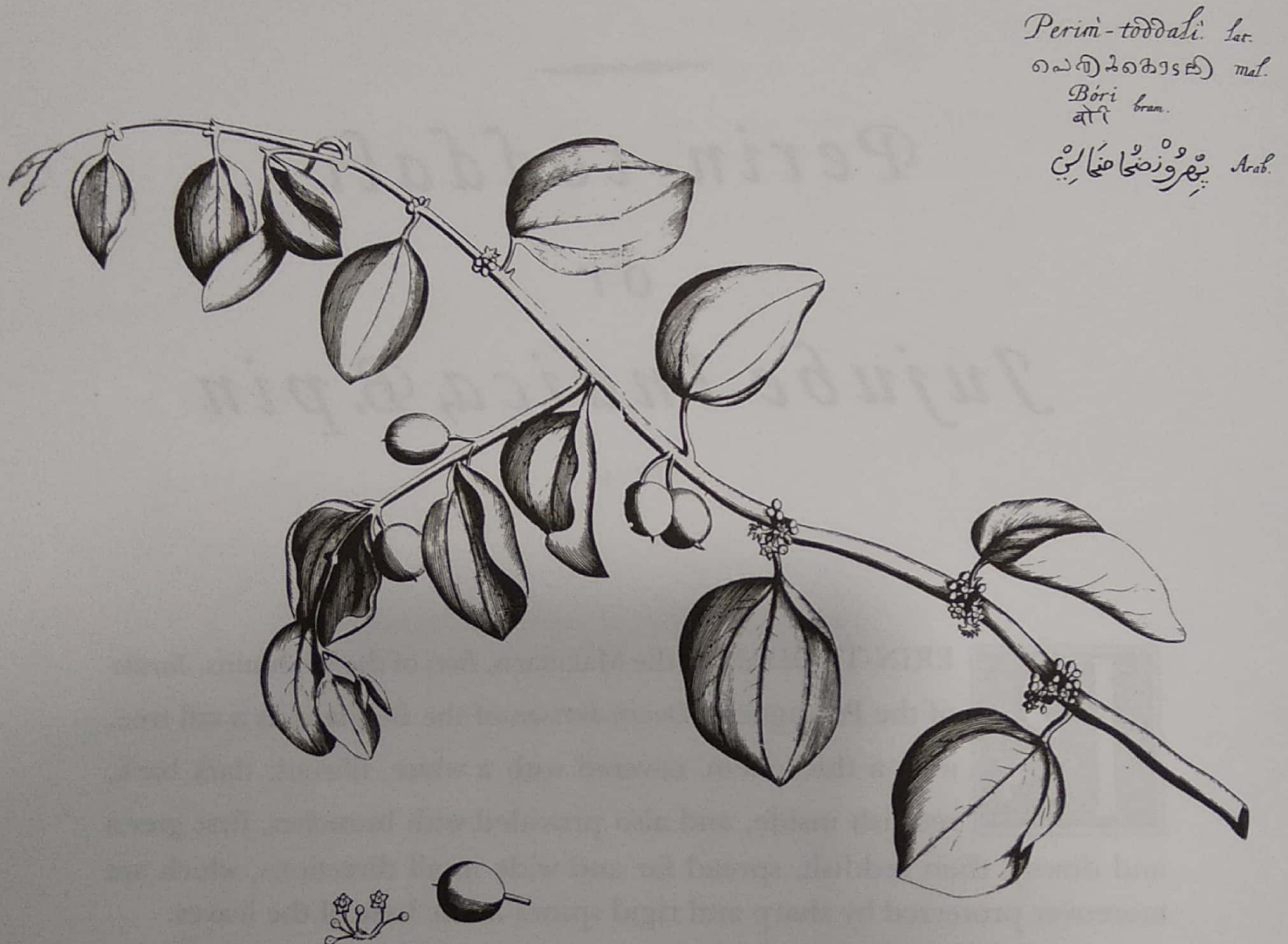


Fig. 41

Fruits not dissimilar to olives both in shape and in size, but small and provided with an acute spine at the tip, first green, then reddish when they become more mature and like olive containing a similar stone, with a white kernel inside; taste a little acidic and pleasing.

Grows in sandy places around Paloerti, bears fruits twice a year, namely in the months of March and September and from the tenth year of planting remains fruit-bearing up to the hundredth year not rarely.

(Its Uses)

Moreove, these mature fruits are eaten by natives, less ripe ones are preserved (pickled) with salt and vinegar into *Atsjar*. The leaves of the tree are used for rubbing and polishing any kind of gems. From the leaves boiled in sweet milk a drink is prepared which cures severe gonorrhea. The same leaves cooked and placed over the navel in the form of a plasma, removes strangury and dysuria (difficulty or pain in passing urine). The juice of the bark pressed out is a remedy for aphtharum (whitish ulcer on the surface of a mucous membrane). The juice pressed out from the root and with castor seed and when administered, powerfully draws the stomach off and clears noxious fluids. From the powder of the root with rice flour and butter a plasma is made, which applied to the forehead, checks delirium, and promotes sleep. From the root cooked in Sesamun oil a balsam is prepared, which when smeared (on aching members/ limbs), relieves arthritic pain.

Zizyphus mauritiana Lam., Encycl. 3: 319. 1789; Manilal & Sivar., Fl. Calicut 67. 1982. -*Rhamnus jujuba* L., Sp. Pl. 194. 1753. *Ziziphus jujuba* (L.) Gaertn., Fruct. 1: 203. 1788, non Mill. 1768 [RHAMNACEAE].

Perin-toddali Rheede, Hort. Malab. 4: 85-86, t. 41. 1683.

The name Perintudali (Malayalam script on t. 41) is not used now; perin means large and tudali possibly refers to a waist chain (tudal). The name used today is Ilanthamaram. Ilantha is from ilakuka ("l" here pronounced as the "I" in large), meaning shine, indicating the leaves shining on the upper side; maram means tree. It occurs in dry areas of Malabar, especially in the Palghat region of Malabar.

Place name mentioned is Paloerti, which is Palluruthy, a southern suburb of the city of Cochin.



Kadali

FIG. 42.



ADALI of the Malabaris, *Naqueri* of the Brahmins, *Katepinake* of the Simhalese, *Fruita de Gralha* of the Portuguese, *Crayebessen* of the Belgians, is a shrub or a short, small tree with a

slender, knotty stem, provided with green, quadrangular, downy and rough branches or shady fronds, spread in all directions. Wood from white to yellow, very hard, dense, surrounded by a dark, downy and rough bark, and also filled inside with fungous martix (as is seen in Sambuco).

Root fibrous, white, covered with a red bark, without smell, of biting taste.

Leaves are two by two, opposite to each other, dark-green on the upper surface, light green on the lower, not dissimilar to the leaves of *Malabatri*, except that they are rough, bristly with very small spines, spotted and slightly crenate in the margin, without smell, endowed with biting taste; three thick nerves pass from the base to the tip of the leaves, from which many parallel vein-lets run transversely.

Flowers arise at the tips of branches, and are placed in a dark red, hairy, deep calyx, divided into five flaps, in the manner of a large nose, are beautiful,

formed of five oblong-round, blue-purple and shining leaves. From the centre come out ten stamens, five namely green-yellow, provided with yellow and feathery apices; five however longer ones yellow below, purple above and twisted in the form of an arch, among which comes out a purple style; no smell, taste biting.

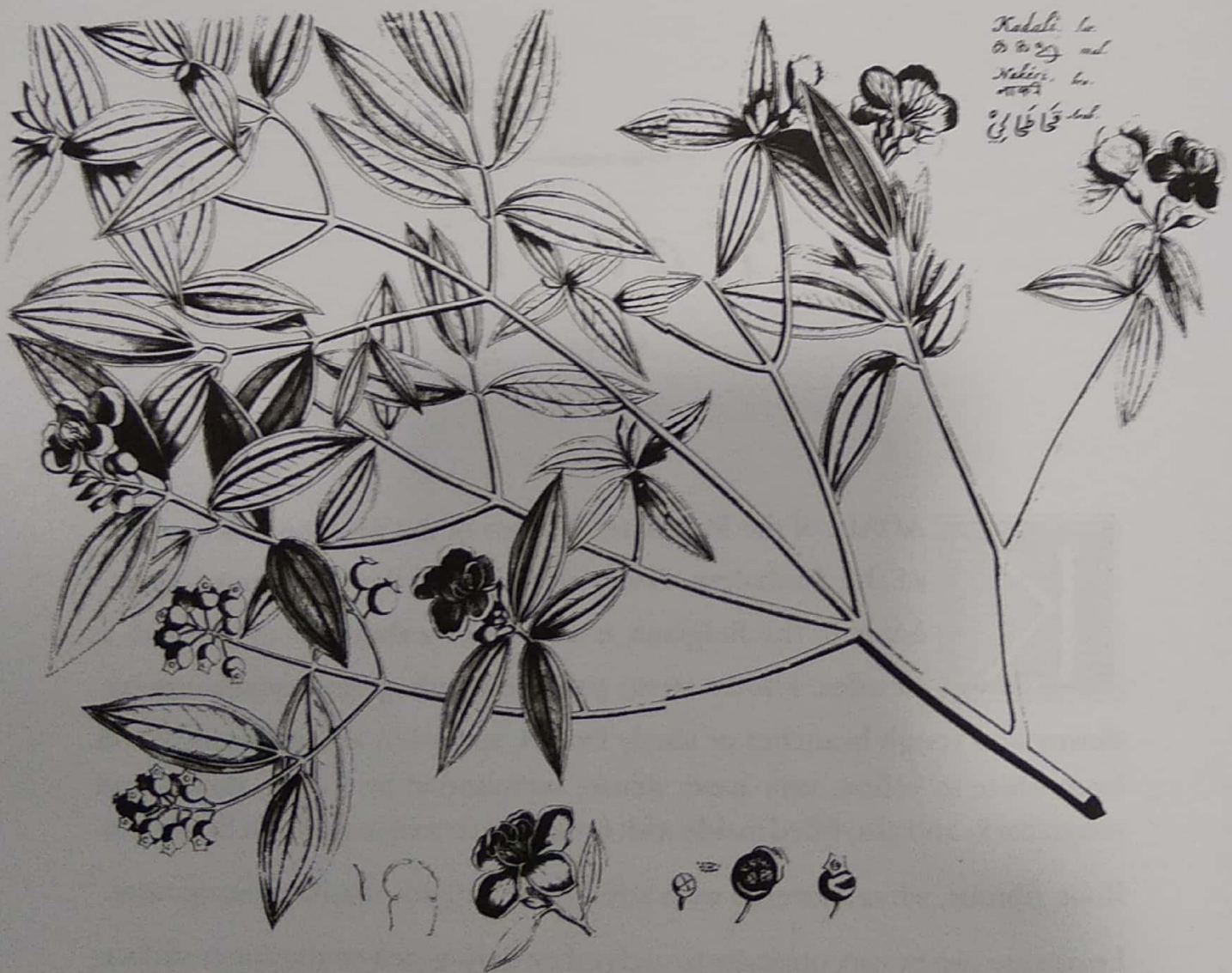


Fig. 42

Fruits, round and surrounded at the erect tip of the calyx, covered with a thick and saffron rind, which when the fruits mature dehisce and open: are inside filled with soft, blue-purple flesh, of pleasing taste and divided into five distinct locules by intermediary membranes, inside which are contained very small white granules so that these fruits do not seem to be different from wild straw-berries or our cultivated strawberries.

Grows in sandy and mountainous places, chiefly around Cochin, is always green, always flowers and bears fruits.

(Its Uses)

Moreover the charcoal of the wood of this tree is used in the preparation of gun powder. The gentiles are wont to offer the flowers in temples dedicated to Venus, and called *Mogeni* (Mohini?) by them. Ripe fruits are eaten by the natives; cotton linen are dyed purple by these (fruits). From the tender leaves, cooked in oil an ointment is prepared, which is suitable for curing aphthis (a small whitish ulcer on the surface of a mucus membrane) and similar affections of the mouth and gum. The juice of the leaves administered along with the infusion of rice heals colic pain.

Melastoma malabathricum L., Sp. Pl. 390. 1753 ("*malabathrica*"); Manilal & Sivar., Fl. Calicut 110. 1982; Bremer in Dassan., Rev. Handb. Fl. Ceylon 6: 159. 1988 ("1987"); Sasidh. & Sivar., Fl. Thrissur 187. 1996; Sivar. & Philip, Fl. Nilambur 269. 1997 [MELASTOMATACEAE].

Kadali Rheede, Hort. Malab. 4: 87-88, t. 42. 1683.

The name Kadali [Malayalam script on t. 42] is not used for this species, although it is used for a medicinal plantain (*Musa*). The name Kadali was used to denote this plant until a century back. Now sometimes called Airani or Adambu. It occurs along river banks throughout Malabar.

Place name mentioned is Cochin, of the same name now also.



Ben Kadali



EN KADALI of Malabar, is another species of *Kadali*, and very similar to *Kadali*; called *Bel-naqueri* by Brahmins, *Fruita da Gralha Branca* by Portuguese, *witte Craye-bessen* by Belgians.

Flowers white, equipped with bristles, with ten erect, uniform filaments (stamens), situated in the center. Fruit with hard, green outer rind, whitish when dry (mature), packed inside with many minute, deep red granules. Eaten by the natives but (have) no use in medicine.

Osbeckia sp. [MELASTOMATACEAE]

Ben-kadali Rheede, Hort. Malab. 4: 89, no plate. 1683.

The name Venkadali is not in current use; ven meaning white; Kadali (of Rheede) is *Melastroma malabathricum*. Perhaps a white-flowered example (variety).

Ben Kadali





Katou-kadali

FIG. 43.



THIS little shrub is called *Katou-kadali* i.e., *wild Kadali* by the Malabarais, *Cit-naqueri* by the Brahmins, *Fruita da gralha do mato* by the Portuhgese, *Wilde craye bessen* by the Belgians, and is the third species of *Kadali*, with a slender stem, bristly with very small spines and provided with purple, rough and hairy branch-lets.

Leaves similar to the leaves of *Kadali*; but bigger, rough, and along the length of the leaf, not three but five thicker nerves pass from which many vein-lets run transversely.

Flowers without smell, placed in a rough and hairy calyx, not dissimilar to the flowers of *Kadali*, but smaller.

Fruits oblong-round, clothed with a rough and hairy rind, and filled inside with succulent, purple flesh of sweet and pleasing taste, inside which are hidden numerous minute granules, as has been said about the fruits of *Kadali*.

Grows in mountainous places, flowers and bears fruits every year.

(Its Uses)

Leaves of this tree crushed and reduced to powder along with dried betel leaves and administered with *jaggery*, relieves coughing and throws out phlegm from the lungs.



Kalou Kadali. Ind.
കാലൂ കാദലി. mal.
Nakeri. Ind.
नाकरी
نقار خايقا. Arab.

Fig. 43

Osbeckia aspera (L.) El., Bijdr. Natuurk. Wetensch, 6: 220. 1831; Hansen, Ginkgoana 4: 80. 1977; Manilal, Fl. Silent Valley 110. 1988; Eremmer in Dassan., Rev. Handb. Fl. Ceylon 6: 166. 1988 ("1987"); Sasidh. & Sivar., Fl. Thrissur 189. 1996. -*Melastoma asperum* L., Sp. Pl. 391.1753 ("*aspera*") [MELASTOMATACEAE].

Katou-kadali Rheede, Hort. Malab. 4: 91, t. 43. 1683.

The name Kattukadali [Malayalam script on t. 43] is not used; Kattu means wild. No Malayalam name is known for this today. It occurs in the highlands of Malabar.



Tsjerou-kadali

FIG. 44.



THE fourth species of Kadali is called *Tsjerou Kadali* i.e., *smaller Kadali* by the Malabarais, *Dacouli-Naqueri* by the Brahmins, *Fruita da gralha pequeno* by the Portuguese, *Cleyne craye-bessen* by the Belgians, and is a low shrub, quite agreeing with kadali except that it is with smaller leaves, flowers and fruits.

Grows in mountainous and rocky places around Kandenate, always flowers and bears fruits.

(Its Uses)

Moreover, from the bark, leaves, flowers and fruits of the tree cooked in *Sesamum* oil, an oil is prepared which heals aphthis (a small whitish ulcer on the surface of a mucous membrane), sore tongue (cleavages on the tongue) and also blisters of palate and gums and "phlyctenis". It is said to cure epilepsy, cynic spasm and other similar affections, if the head is smeared with it.



Fig. 44

Osbeckia saxatilis (Dennst.) Suresh, in Nicolson *et al*, Interp. Rheede's Hort. Malab. 176. 1988. -*Melastoma saxatile* Dennst., Schlüssel 16, 23, 30.1818 ("saxatilis"); Manitz, Taxon 17: 500.1968 [MELASTOMATACEAE].

Tsjerou-kadali Rheede, Hort. Malab. 4: 95-96, t. 44. 1683.

The name Cherukadali (Malayalam script on t. 44) is not used; cheru (from cheruthu) means small. No Malayalam name is known for this plant now.

Rheede mentions that it grows in rocky places around Kandenate, now called Candanaadu, the region north-east of Cochin, but its present distribution is uncertain.



O e p a t a

FIG. 45.



EPATA or UPATA of the Malabaris, *Kandolu* and *Oepoli* of the Brahmins, *Selgieira* of the Portuguese, *Zoitboom* of the Belgians, is a tall and much beautiful, tree, equalling about the measurement of seventy feet in height and sixteen feet in thickness, and provided with many ash-coloured branches spread far and wide in all directions: wood white, protected with an ash-coloured bark.

Root fibrous, red, coloured with a red bark; without smell, mucilaginous, of light salty taste.

Leaves arise around the branch-lets in a parallel fashion on short petioles, are oblong-round, thick, dense, glabrous, shining, green on the upper surface, light ash-coloured on the lower, tasteless and odourless; the mid-rib on the lower side very much standing out, from which many, very thin nerves run towards the upper part.

Flowers arise in recemes, are very small, sweet smelling, placed in a green clayx divided into five acuminate flaps, formed of four oblong-around,

acuminate, yellow leaflets, whitish in the margins, these leaflets come in between as many white stamens provided with bifid apices, with a small, white style occupying the middle.

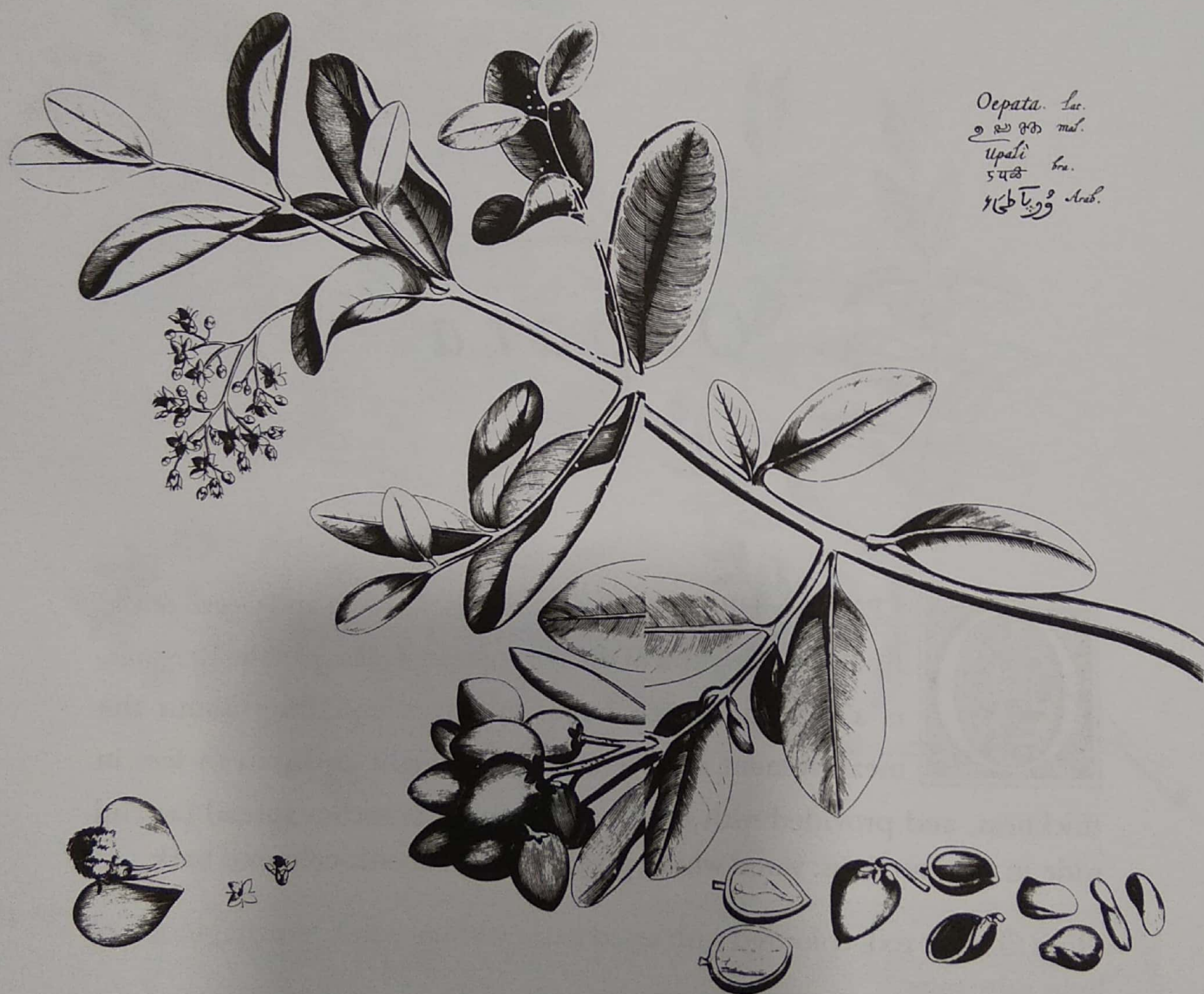


Fig. 45

Fruits succeed the flowers with equal fertility, are coniform and even, with a point at the tip, clothed with a green, thick, fleshy and cushion like rind, in the manner of Almond, with this is enclosed a kernel, recalling a large bean both in shape and substance and smell; which while is still contained in its involucre (covering) begins to germinate and sends out the rudiments of roots and leaves.

Grows in sandy places along the banks of back waters, especially around Cochin; bears mature fruits every year, namely in the months of August and September, and not rarely remains fruitful for a century.

(Its Uses)

Moreover, from the sharp salty ashes of the wood of this tree dye is prepared, which washerwomen use for washing and cleaning cotton linen. Also painters used to mix this dye with colours, so that (the colours) may adhere to the pictures more firmly. The kernels of the fruits, after removing their bitterness by long maceration and cooking (boiling) in ordinary water, are sought after by the natives in *Caril* dishes (curry?). Moreover from these green fruits boiled with the leaves of Adamboe and crushed with the addition of butter, a cataplasma (plaster or poultice) is made, which when placed on boils softens and matures them: for the same purpose this cataplasma used to be placed on chicken-pox and morbilla (measles) so that either they may mature quickly or may be suppressed.

Avicennia officinalis L., Sp. Pl. 110. 1753; Mold. in Dassan., Rev. Handb. Fl. Ceylon 4: 132. 1983; Manilal & Sivar., Fl. Calicut 234. 1982. -*Avicennia oepata* Ham., Trans. Linn. Soc. London 17(2): 221. 1835 [AVICENNIACEAE].

Oepata Rheede, Hort. Malab. 4: 95-96, t. 45. 1683.

The name Uppattha (Malayalam script on t. 45) is not used in Malayalam now but is used in Tamil. Uppu is salt, perhaps referring to its habitat [brackish water]. The present Malayalam name is Vellakandal; vella means white and kandal means a mangrove plant. It is common along the coast of Malabar.

Place name mentioned is Cochin, of the same name now also.

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It also mentions the results of the various committees and the work of the various departments.

2. The second part of the report deals with the work of the various committees and the work of the various departments. It also mentions the results of the various committees and the work of the various departments.

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9. The ninth part of the report deals with the work of the various committees and the work of the various departments. It also mentions the results of the various committees and the work of the various departments.

10. The tenth part of the report deals with the work of the various committees and the work of the various departments. It also mentions the results of the various committees and the work of the various departments.

CONCLUSION

The work of the various committees and the work of the various departments during the year has been very satisfactory. The results of the various committees and the work of the various departments have been very satisfactory.

Wadouka

FIG. 46.



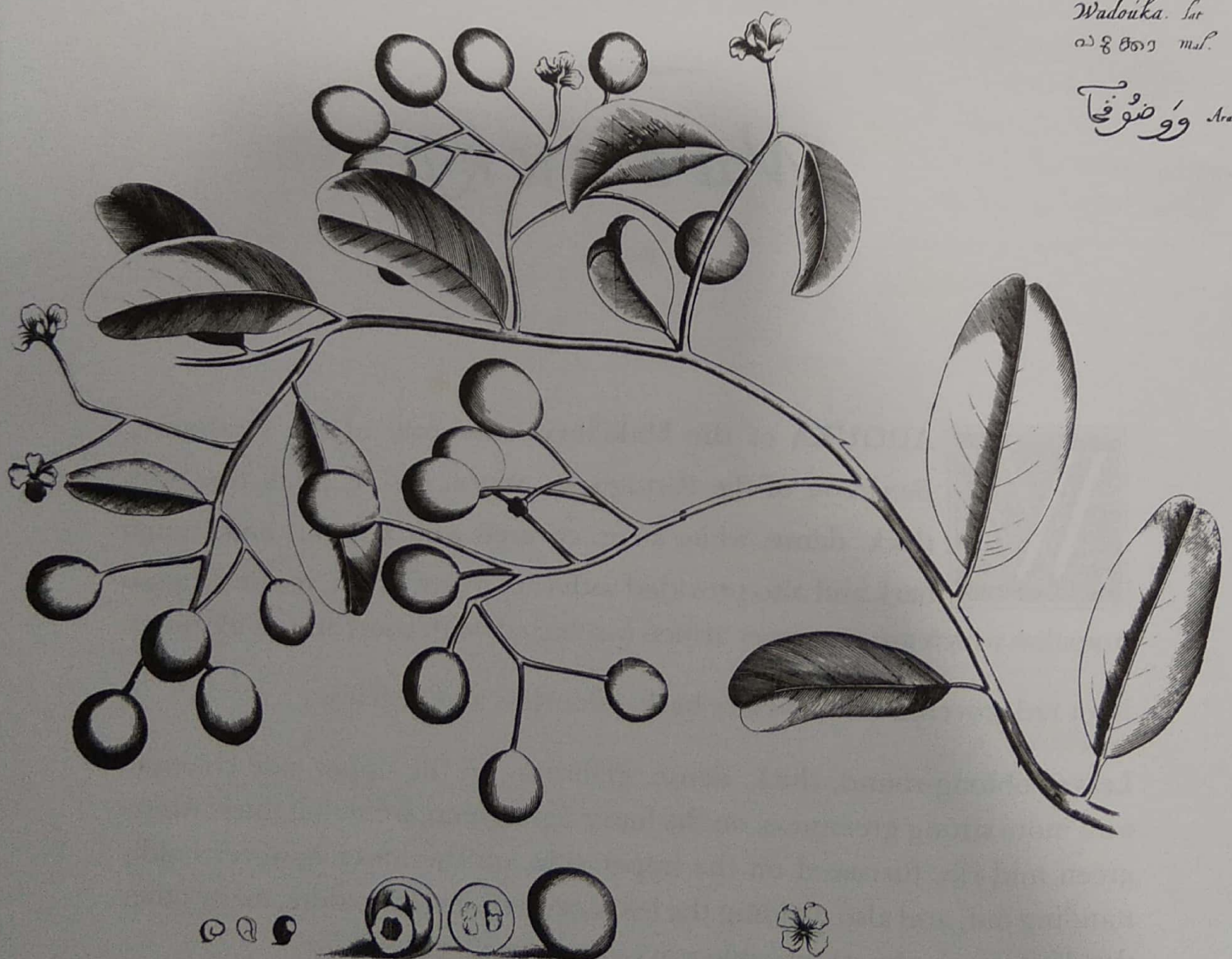
ADOUKA of the Malabarais, *Adoulatti* of the Brahmins, *Banhoeira* of the Portuguese, *Smeer-appel*, is a tall tree, with thick, dense, white stem, covered with a dark, thick, rough bark and also provided with very many, green, inside fungous branches which are moreover armed (protected) with short and rigid spines.

Root red, covered with a yellow bark, odourless and tasteless.

Leaves oblong-round, thick, dense, glabrous, on the upper side coloured with more strong greenness, on the lower light green; from that thick, white-green mid-rib, furrowed on the upper side, on the lower however boldly standing out, and also dividing the leaf unequally in the middle, many other slender (veins), almost invisible run out; no smell, taste bitter.

Flowers arise in racemes on longer petioles, are very small, approaching the flowers of linden tree in size, formed of four sub-round, white, purple striated and soft leaflets, adhering to a green quadripartite calyx, of beautiful (pleasing) smell, of slight bitter taste.

Fruit not dissimilar to the fruits of *Nyalel*, are globose, glabrous, red to yellowish, inside with mucilaginous flesh, from white to blue, insipid, without smell, inside which are contained two oblong-smooth-round, light green stones, clothed with a slender membrane, of light biting taste, and also separated from one another by a membranous partition.



Wadouka. Lat.
 மதுகை mal.

وَصُوفِيَا Arab.

Fig. 46

Grows everywhere in Malabar, chiefly around Cochin; every year bears fruit twice, namely in the months of April and October, and remains fruit-bearing for a long time.

In medicine have no use.

Capparis moonii Wight, Ill. 1. 35. 1840. Sasidh. & Sivar., Fl. Thrissur 40. 1996. - *Achras retusa* Dennst., Schlüssel 17, 18, 30. 1818, non Poir. 1805; Manitz, Taxon 17: 499. 1968 [CAPPARACEAE].

Wadouka Rheede, Hort. Malab. 4: 97, t. 46. 1686.

The name Wadukka (Malayalam script on t. 46) is not in use now, nor its meaning clear. Identification of the species requires further study of the specimen, which has, however, not been seen recently in Malabar.

The name of the locality where it is found is mentioned as Cochin, which is of the same name now also but, this plant does not appear to be present there at present.

Rava-pou

or

Jasminum Indicum Bacciferum

with white, large flower, smelling during night;

or

Sorrowful tree from the other day.

FIG. 47, 48.



AVA-POU of the Malabiees, *Marotania* of the Brahmins, *Fula Bordao* or *Arvore triste de dia* of the Portuguese, *Nacht-bloemen* of the Belgians is a tall tree, with a thick, dense, white stem, covered with dark-purple, glabrous, odourless, insipid bark, and also provided with dark-purple and inside fungous branches or shady fronds spread wide.

Root white, covered with a red bark, without smell, of biting taste.

Leaves arise in pairs in decussate fashion on red and downy petioles around small branches, are oblong-round, acuminate, soft, glabrous, dense, shining, dark-green on the upper side, on the lower light green, from the thick, round, white, mid-rib, dividing the leaf in the middle lengthwise, and very pronounced on the lower side, many other riblets originate towards the upper side, which inter twine in an arched manner; taste little salty, smell nil.

Flowers arise on tender branches, attached to oblong red, and downy pedicels, coming out from the inner base of the leaves, many, that is, in threes, fours,

or many together almost collected, white, similar to the flowers of jasmine or rather tuberous Hyacinth both in shape and size, and formed of similar leaflets, as they, but more full (many) and with multiple texture (construction)

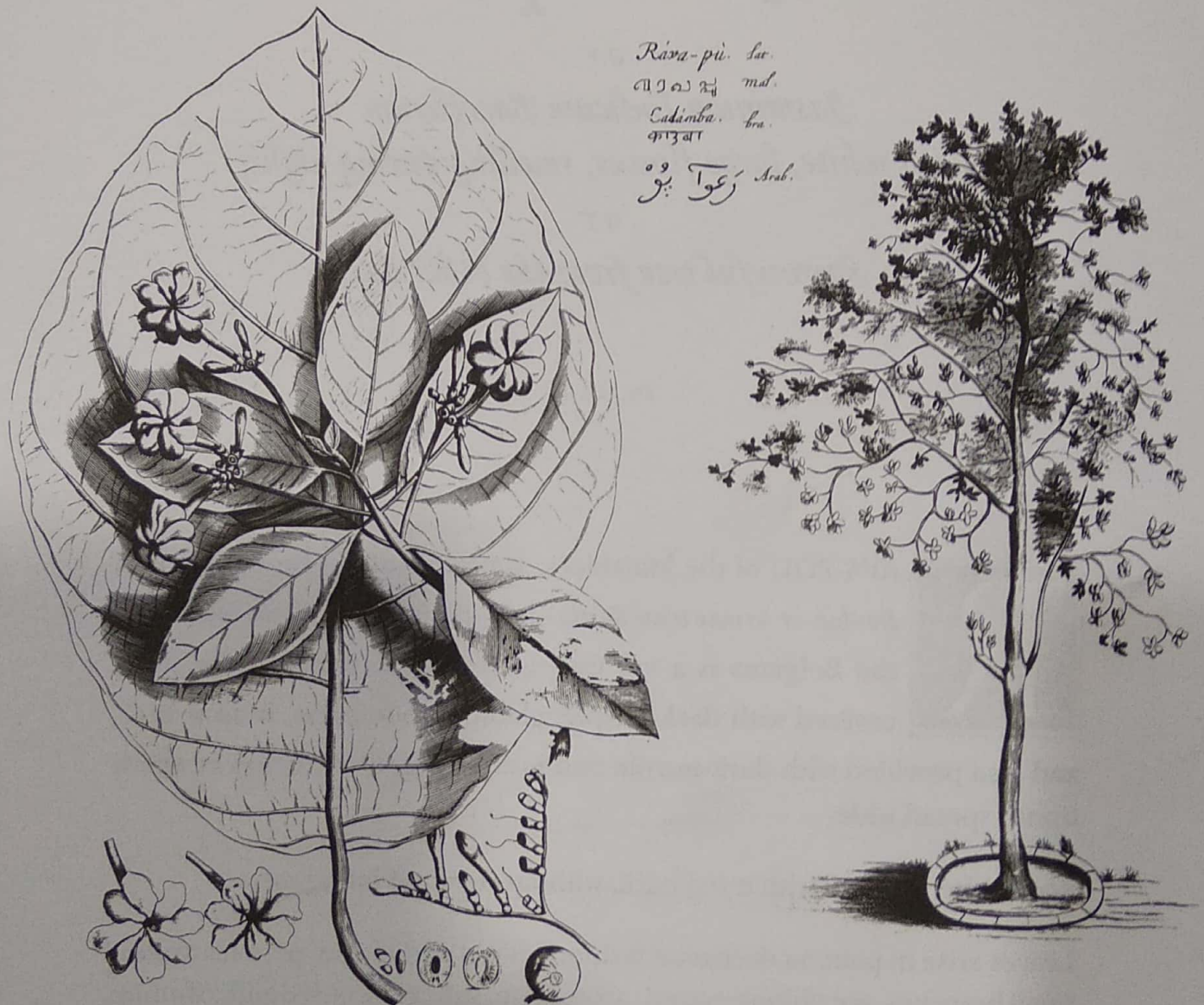


Fig. 47

of flowers, of very fragrant smell and not much dissimilar to the smell of jasmine or tuberous flowers. They usually open into flowers during night and when the Sun rises and at the same time as they begin to be illumined by

the rays, immediately fall down either because of some antipathy or because of too much thinness (poverty) of the juice, which the Sun's rays take away: for, those which sun does not touch, remain longer on the tree.

Rava-pu. *lat.*
 നാലാമ്പി *mal.*
Cadamba *bra.*
 काडंबा
 رعوأ *Ar.*



Fig. 48

Sometimes fruits follow the flowers, are globose, green, provided with a very small tip at the side, and covered with a thin rind; beneath this is a woody rind, enclosing an oblong-round, white kernel, of bitter-sweet, biting taste.

Does not grow in Malabar except when planted as seedling as this region is not its native soil, but from elsewhere it is brought to it (region). Is always green, and bears very fragrant flowers, which are opened by the setting sun and fall down at Sun-rise. A species however of this tree is described in the first part, by the name of *Manjyapou Maram*.

(Its Uses)

From the leaves of this tree boiled in water, a drink is made which when given to pregnant women, is said to accelerate delivery. The bark reduced to powder and sprinkled in ulcers, dries up swelling and fungous flesh.

Guettarda speciosa L., Sp. Pl. 991. 1753; Ridsdale in Manilal, Bot. Hist. Hort. Malab. 132. 1980. -*Nyctanthes hirsuta* L., Sp. Pl. 6. 1753. *Jasminum hirsutum* (L.) Willd., Sp. Pl. 1: 36. 1797 [RUBIACEAE].

Rava-pou Rheede, Hort. Malab. 4: 99-100, t. 47-48. 1683.

The name Ravapoo [Malayalam script t. 47-48] is still used; raava (from raavu) means night and poo (from poovu) means flower, i.e., night flower, which opens at night and fall off at sun rise. It is cultivated in gardens of Malabar.

Anavinga

FIG. 49.



NAVINGA of the Malabar, *Talana* of the Brahmins, *Bringiela Falsa d' Arbore* of the Portuguese, *Granaat-Prugmen* of the Belgians, is a tree of medium size, measuring about twenty feet in height and six feet in thickness, provided with many

dark branches, which are green inside; wood white, dense, protected with an ash-coloured, glabrous and bitter bark.

Root red, fibrous, covered with a blackish bark; foul smelling, bitter

Leaves adhere alternately to branches, are oblong round, acuminate, and somewhat crenate in the margin, glabrous, dense, shining with dark green colour on the upper surface, on the lower with light green colour, with certain nerves running into the sides from the mid-rib; taste bitter, smell woody and unpleasant.

Flowers very small, green, without smell, and of bitter taste, adhere to branches at the origin of the leaves on short petioles and are formed of four round, spoon-shaped leaflets, with six green-yellow stamens, provided with red heads, occupying the middle; among which comes out a green yellow style with a round head.

Fruits globose, with a point at the tip, emulating (approaching) cherries in size, green, glabrous, surrounded by a thin membrane, inside filled with green succulent flesh of bitter taste; inside which are arranged numerous red seeds, in the manner of Punic apple.

Ana-vinga. Lat.
 ഏനാങ്ക മാ.

عنق وبنفج Arab.

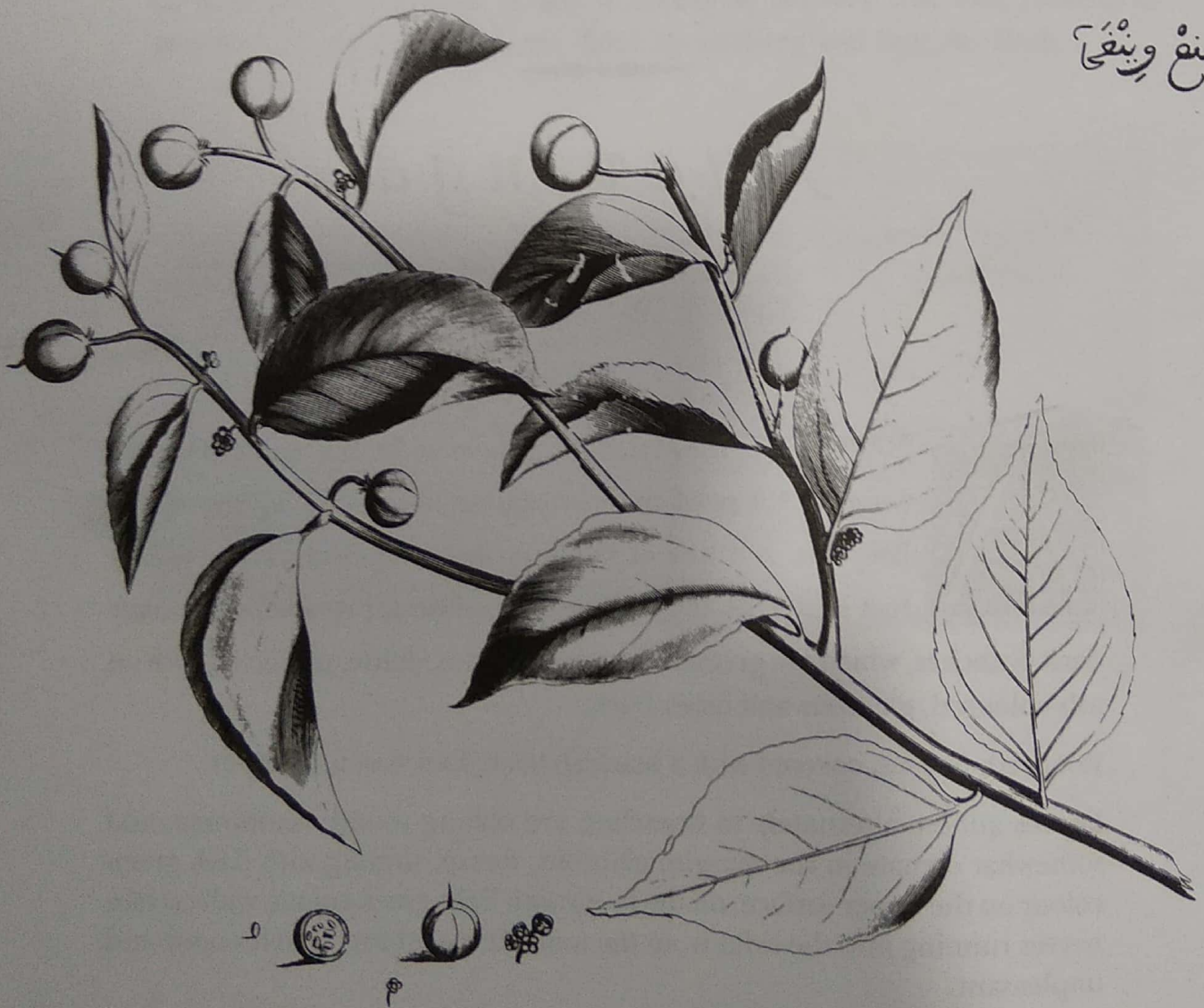


Fig. 49

Grows in sandy places in Malabar, especially around Cochin, is always green, bears mature fruits every year namely in the month of August.

(Its Uses)

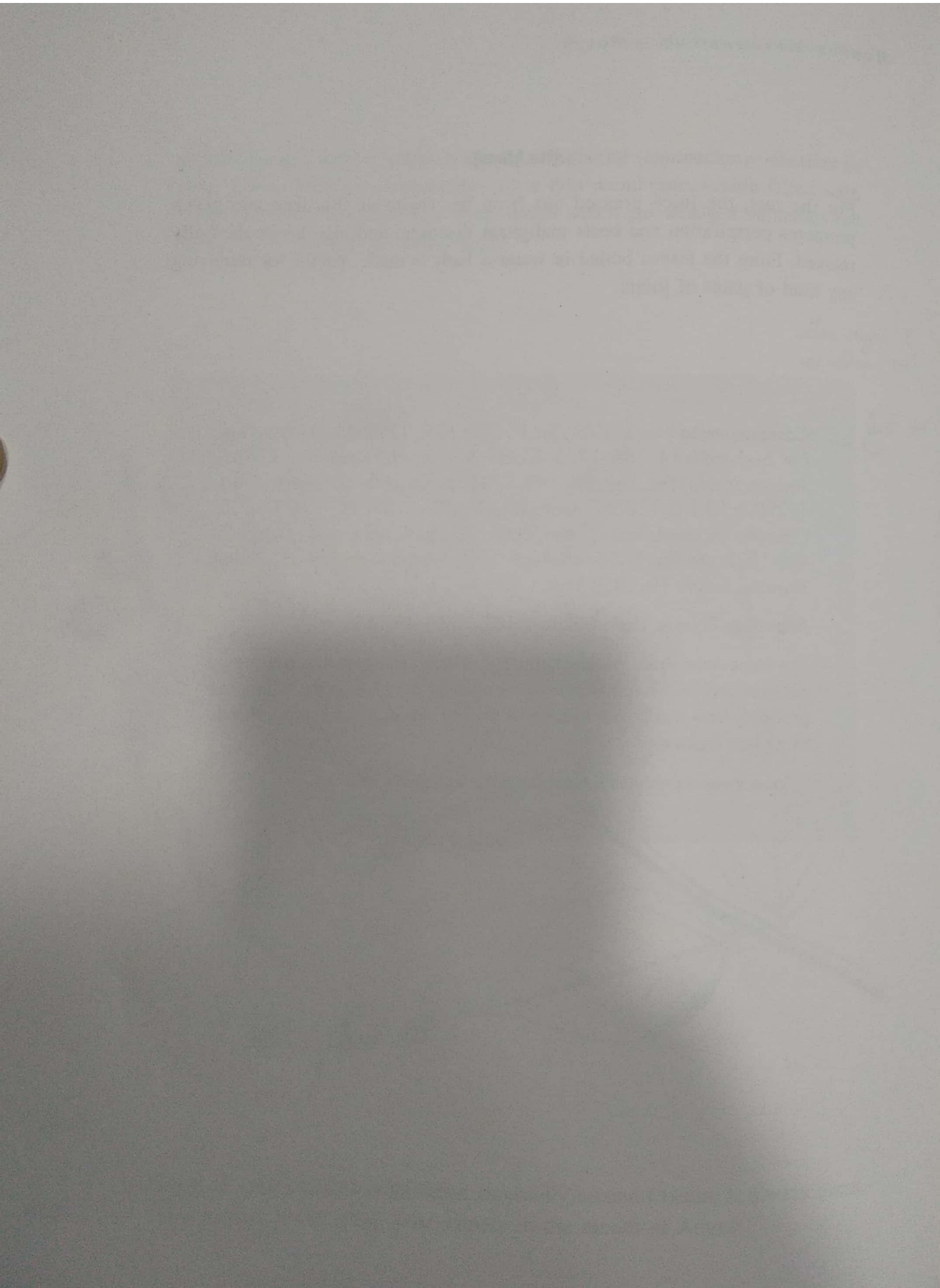
For the rest, the juice pressed out from the fruits of this tree and given promotes perspiration and heals malignant diseases; and also keeps the belly relaxed. From the leaves boiled in water a bath is made, useful for removing any kind of pains of joints.

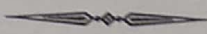
Casearia ovata (Lam.) Willd., Sp. Pl. 2(2): 629. 1799; Mukherjee, Bull. Bot. Surv. India 14: 184. 1972; Sasidh. & Sivar., Fl. Thrissur 44. 1996. - *Anavinga ovata* Lam., Encycl. 1: 148. 1783. *Vareca zeylanica* Gaertn., Fruct. 1: 290, t. 60, f. 6. 1788. *Casearia anavinga* Pers., Syn. Pl. 1: 485. 1805. *Casearia esculenta* Roxb., (Hort. Beng. 90.1814, nom. nud.) Fl. Ind. 2: 422. 1832; Manilal, Fl. Silent Valley 9. 1988. *Casearia zeylanica* (Gaertn.) Thwaites, Enum. 19. 1858 [FLACOURTIACEAE].

Ana-vinga Rheede, Hort. Malab. 4: 101-102, t. 49. 1683.

The name Aana vinka (Malayalam script on t. 49) is still used; Aana means elephant and "vi-". means that which is against. The allusion is not clear but probably may mean that elephants do not like it. It occurs in uplands throughout Malabar.

Place name mentioned is Cochín, of the same now also.





Courondi

FIG. 50.



OURONDI of the Malabar, *Courdi* of the Brahmins, *Asotas* of the Portuguese, *Grieten* of the Belgians, is a tall tree, with a thick, dense, white stem, covered with a black, rough bark and provided with many branches, fungous inside.

Root white, covered with an ash-coloured bark, sharp smelling.

Leaves arise in twos in a parallel fashion around branch-lets, are oblong-round, slightly crenate in the margin, thick, dense, glabrous, shining green on the upper side, light green on the lower, with some nerves running to the sides from the mid-rib; taste biting, smell nil.

Very small, green-yellow flowers, not dissimilar to the florets of vine (grapes), arise at the origin of the leaves around small branches, many, that is to say in threes, fours or many collected together, formed of five sub-round leaflets, with numerous stamens occupying the middle; without smell, of biting taste.

Fruits follow the flowers with equal fertility are round, purple surrounded by a thick, fleshy, soft, and inside saffron rind, containing a kernel similar to

acorn, which is covered with a red membrane, of unpleasant smell, and of light sour taste.

Grows in mountainous and rocky places around Paracaro, is always green, every year bears mature fruits namely in the months of December and January, and fruitful for a long time.

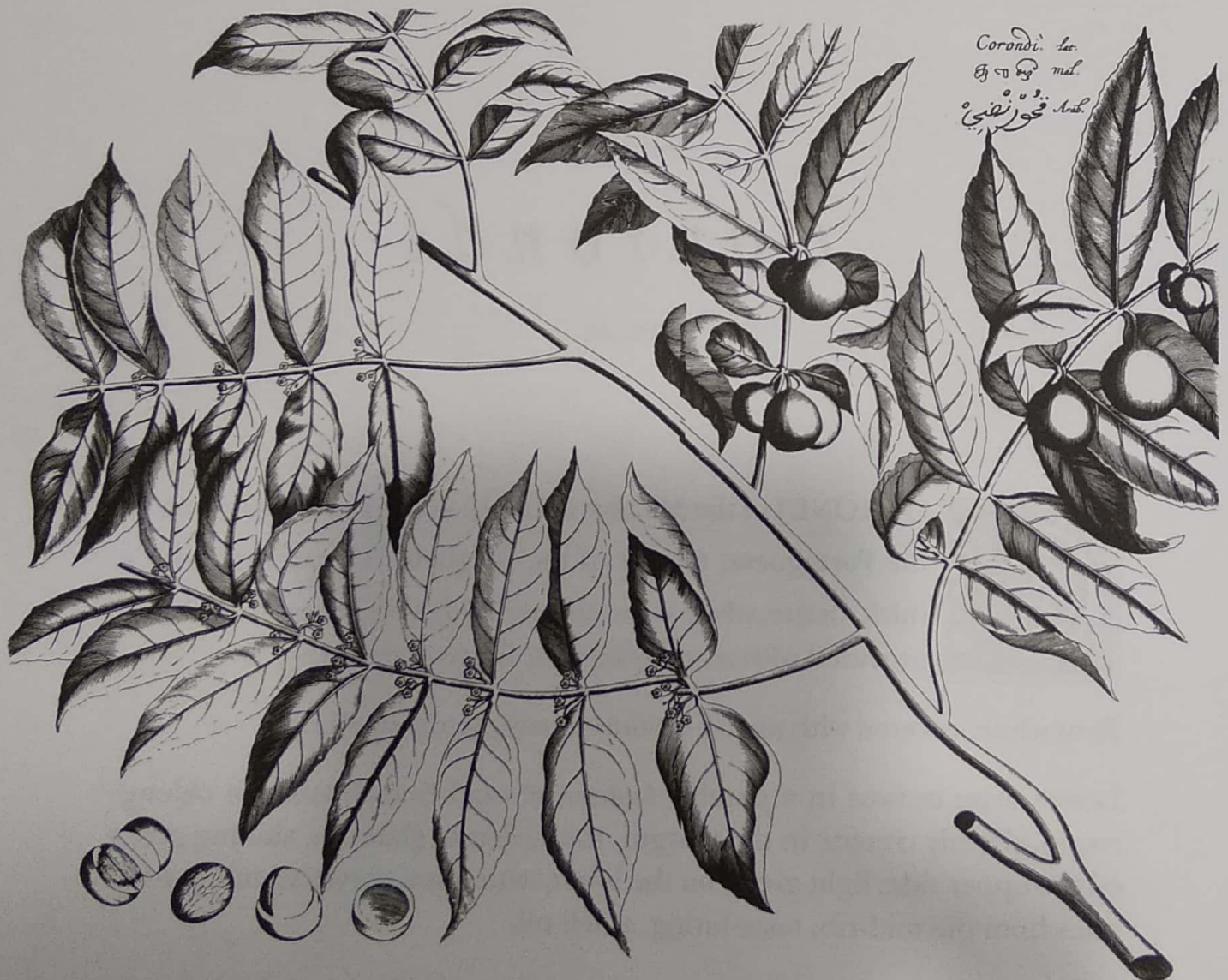


Fig. 50

(Its Uses)

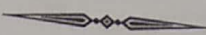
For the rest, the juice pressed out from the leaves of this tree and administered hot with whey, cures diarrhoea and dysentery; the kernels of the fruits taken in any manner do the same (have the same effect).

Salacia chinensis L., Mant. 2: 293. 1771; Ding Hou in Fl. Males. I, 6: 419. 1964; Manilal, Fl. Silent Valley 58. 1988. -*Christmannia courondi* Dennst. ex Kostel., Allg. Med.-Pharm. Fl. 5: 2004. 1836 [HIPPOCRATEACEAE].

Courondi Rheede, Hort. Malab. 4: 103-104, t. 50. 1683.

Kurandi (Malayalam script on t. 50) is sometimes still used for this, which means "board or piece of plank used as a seat". Perhaps the wood of this was used as seats earlier. This name is not in common use.

Place name mentioned is Paracaro, of the same name now also.



Bengieiri

FIG. 51.



THE tree which is called *Bengiri* or *Caremotti* by the Malabaris, *Girimaso* by the Brahmins, *Nilica d'inforno* by the Portuguese, *Nootjes craack myn niet* by the Belgians, is of medium size, with a thick whitish stem, covered with a black bark, and also provided with many ash-coloured branches; without any smell and fungous inside and of sharp taste.

Root white, covered with a yellowish and milky bark, without smell, of sharp and burning taste.

Leaves arise alternately on short petioles around small branches, are oblong-round, acuminate, serrate in the margin, thick, dense, glabrous with some nerves running into the sides from a whitish mid-rib which is pronounced on the lower surface; taste sweet and contracting.

Very small and almost invisible florets arise in racemes at the extremities of the shoots, and are placed in a very small green-white calyx, are formed of three stamens provided with yellow apices. But these florets should rather be called *Juli*, because fruits do not arise from them: but below the racemes of

analogically called racemes or rather spikes, oblong-round buds are seen, giving out three curved, whitish filaments equipped with yellowish heads, which are tasteless and odourless buds is the rudiment of the fruit itself.



Fig. 51

The fruits are round, furrowed into six thick corners, not dissimilar to the fruits of *Nilica Maram*, described in the first part, are green, surrounded by a thick rind, beneath which is a shell or woody, red rind, enclosing white seeds in twos or threes, of sweet and pleasing taste, similar to the castor seeds in shape. The thick rind which surrounds this fruit when wounded by slight incisions gives out milky, sharp, burning tear; wherefore if anybody tries to

break these dried fruits with teeth, soon because of the great pungency, the tongue, jaws and other parts of the mouth are twitched, become swollen, inflamed, which symptoms, not rarely shows sudden death.

Grows in sandy and humid places in Malabar, chiefly around Cochin; is always green, every year bears mature fruits namely in the month of September.

(Its Uses)

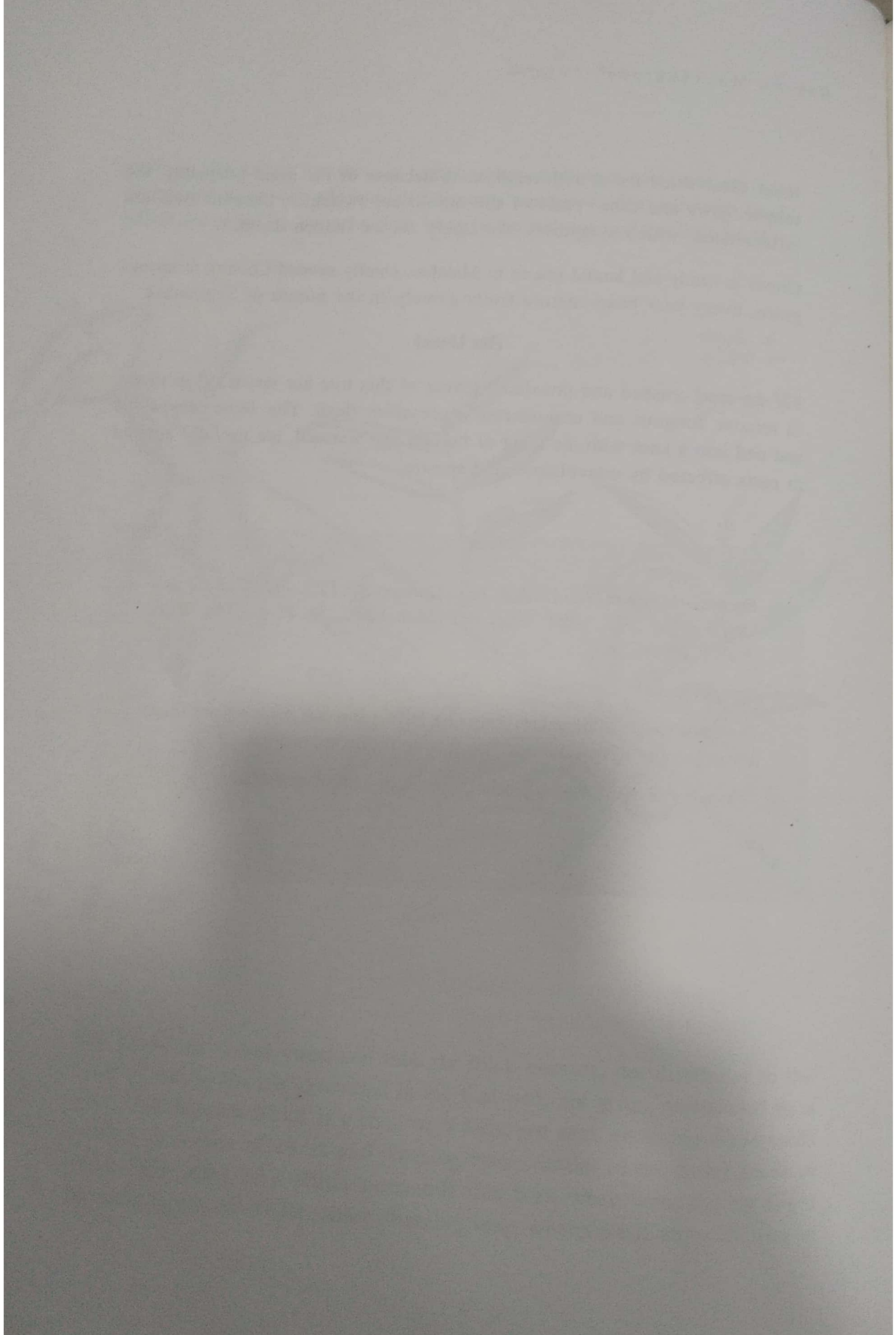
For the rest, crushed and powdered leaves of this tree are sprinkled in ulcers to remove fungous and unmoderate (excessive) flesh. The same leaves cut and tied into a knot with the dung of buffalo and warmed, are usefully applied to parts affected by convulsions and spasms.

Excoecaria indica (Willd.) Müll.-Arg., Linnaea 32: 123. 1863; Airy Shaw, Kew Bull. 36: 297. 1981. -*Sapium indicum* Willd., Sp. Pl. 4: 572. 1805 [EUPHORBIACEAE].

Bengiri Rheede, Hort. Malab. 4: 105-106, t. 51. 1683.

The name Vengiri (Malayalam script on t. 51) is still in use; meaning not clear. It is very scarce in Malabar and has not been collected recently.

Place name mentioned is Cochin, of the same name now also.



—◆—

Aria-bepou
S: Nimbo Acostae

FIG. 52.



RIA-BEPOU of the Malabar, *Nimbou* of the Brahmins, *Amargosiera* of the Portuguese, *Gal-bessen* of the Belgians, is a tall tree, with a thick, from white to yellowish stem, covered with a blackish bark; and also provided with red branches, or shady fronds, spread wide.

Root thick, white, covered with a dark purple bark, strong smelling bitter.

Numerous leaves arise around tender branches, are oblong-round, acuminate, deeply serrate in the margin, slender, glabrous, shining, strong smelling, bitter, with certain nerves running into the sides from the mid-rib very much pronounced on the lower side and dividing the leaf unequally in the middle lengthwise.

Flowers arise in racemes on oblong petioles, are very small, white, without smell, placed in a very small green calyx, divided into five acuminate flaps, formed of five, round leaflets: with a fringed, small, light yellow cup occupying the middle, containing ten stamens and also a slender, long style, somehow exceeding the outer margins of the cup, not otherwise as is seen in slender leaved *Narcissus*.

Fruits similarly arise in racemes, are oblong-round, not dissimilar to small olives in shape, first yellow, then purple, surrounded by a thin membrane, inside filled with oily, sharp and bitter flesh; inside which is placed an oblong stone, enclosing a whitish kernel.



Aria-Bepou. L.
 അരിയ ബേപ്പൂ മ.

Fig. 52

Grows in sandy places around Trevancoor, and also in Tutucoryn, Jaffanapatnam and other places in the Island of Zeylan, is always green, and every year flowers and bears fruits twice.

(Its Uses)

From the fruits of this tree an oil is pressed out, from which painters make colours for dying cotton linen. From the leaves boiled in water a bath is prepared, useful for driving out chicken pox and relieving the pains of joints. From the same leaves dried and powdered and mixed with oil pressed out from the fruits, an ointment is made, which is usefully smeared over painful parts affected by convulsions and spasm.

Azadirachta indica A. Juss., Bull. Sci. Nat. Geol. 23: 236. 1830. Mabb., Taxon 26: 530. 1977; Manilal & Sivar., Fl. Calicut 64. 1982; Sasidh. & Sivar., Fl. Thrissur 100. 1996. -*Melia azadirachta* L., Sp. Pl. 385. 1753 [MELIACEAE].

Aria-bepou Rheede, Hort. Malab. 4: 107-108, t. 52. 1683.

The name Ariya-vepu (Malayalam script on t. 52) is still used. Arya usually means good (of superior quality) and vepu is the Curry Leaf, the name referring to the good medicinal qualities of its leaves. The species is very common in dry areas of Malabar. Also planted as avenue tree.

The place name (in Malabar) mentioned is Trevancoor, which is Travancore, the souther region of Malabar. Other places (outside Malabar) mentioned are- Tutucoryn, i.e., Toothukudy in Tamil Nadu on the east coast of Indian peninsula; Jaffanapatnam is Jaffna and Zeylan is Ceylon or Sri Lanka.

What is the purpose of the study? (10%)
The purpose of the study is to determine the effect of the independent variable on the dependent variable. The study is designed to test the hypothesis that the independent variable has a significant effect on the dependent variable. The study is a quantitative study and will use a randomized controlled trial design. The study will involve a sample of 100 participants who will be randomly assigned to two groups: the experimental group and the control group. The experimental group will receive the treatment and the control group will receive a placebo. The study will measure the dependent variable at baseline and at follow-up. The study will use a t-test to analyze the data and determine if there is a significant difference between the two groups. The study will be conducted over a period of 12 weeks. The study will be conducted in a laboratory setting. The study will be conducted by a research team consisting of a principal investigator and several research assistants. The study will be funded by a grant from the National Institutes of Health. The study will be published in a peer-reviewed journal. The study will be available to the public through a public access repository. The study will be conducted in accordance with the ethical principles of the Declaration of Helsinki. The study will be approved by the Institutional Review Board. The study will be conducted in a manner that is consistent with the highest standards of research integrity. The study will be conducted in a manner that is consistent with the highest standards of research ethics. The study will be conducted in a manner that is consistent with the highest standards of research quality. The study will be conducted in a manner that is consistent with the highest standards of research transparency. The study will be conducted in a manner that is consistent with the highest standards of research accountability. The study will be conducted in a manner that is consistent with the highest standards of research integrity, ethics, quality, transparency, and accountability.

Karibepou

S. Nimbo Altera

FIG. 53.



THE tree which is called *Karibepou* by the Malabaris, *Karabou* by the Brahmins, *Amargosiera Macho* by the Portuguese, *ron de Galbessen* by the Belgians, is another (the second) species of *Bepou*, is tall and much beautiful, with a very thick, white stem, covered with a black bark, strong smelling, bitter; and also provided with very many reddish and downy branches.

Root white, covered with dark purple bark.

Leaves not dissimilar to the leaves of the preceding species, but smaller, of unpleasant and sulphur smell, of acid-bitter taste.

Flowers not otherwise than the flowers of *Aria-Bepou*, arise in racemes, are very small, white, strong smelling, are placed in a very small red calyx divided into five acuminate flaps, formed of five acuminate leaflets; these leaflets come in between ten white stamens, provided with red apices with a slender white style with a green head, occupying the middle.

Fruits similar to the fruits of *Aria-Bepou*, but round and coloured with a deeper purple hue.

Grows in many places in Malabar, chiefly around Angiecayaal; is always green, every year flowers and bears fruits twice.



Kari-bepu. Lat.
 കരിവെപ്പു Mal.
Cari-beu. Bra.
 कारीबेउ
 خارب و قبيض Arab.

Fig. 53

(Its Uses)

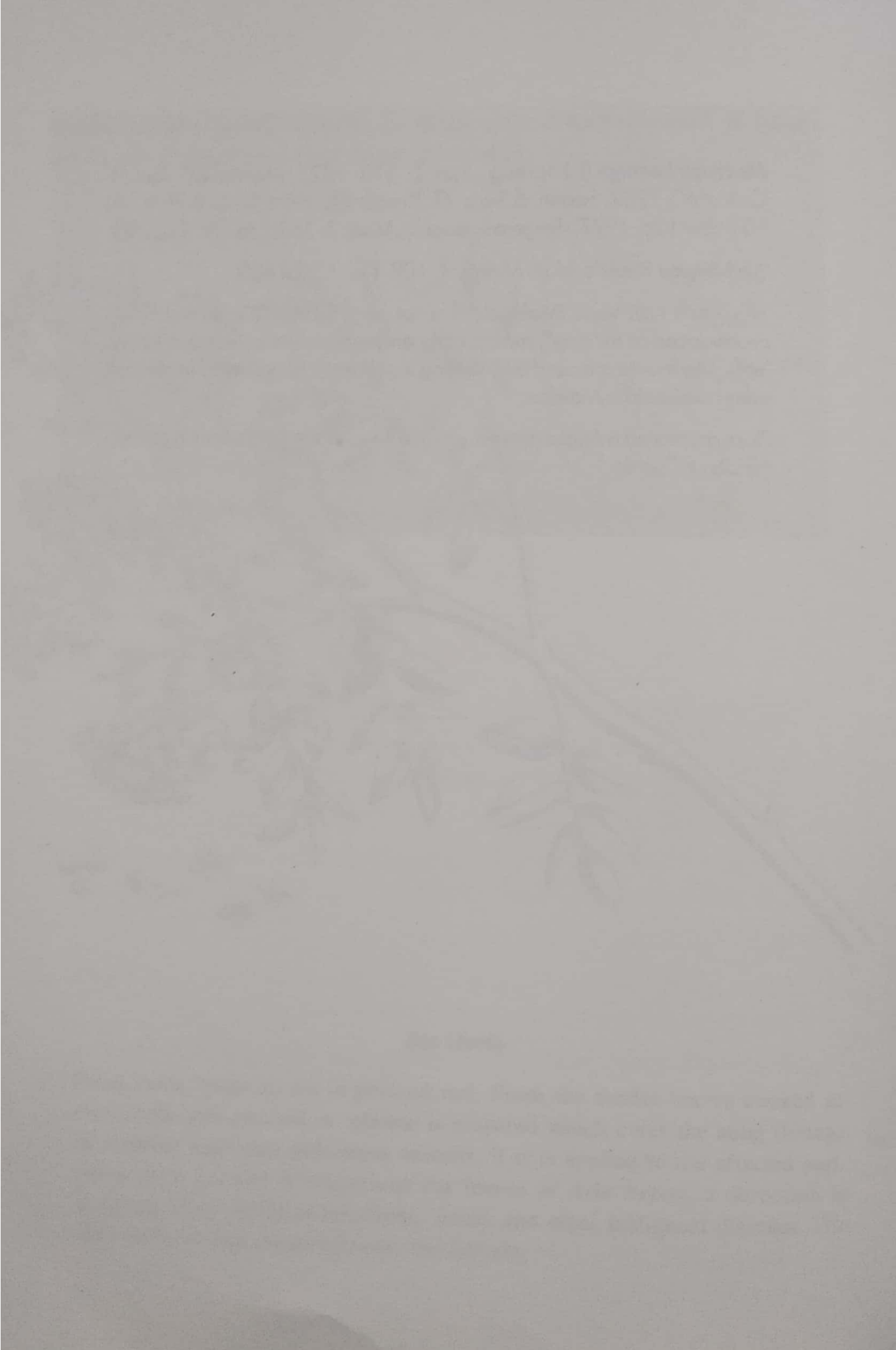
From these fruits an oil is pressed out. From the tender leaves cooked in sweet milk and crushed, a plasma is prepared which cures the sting (biting) of serpents and other poisonous animals, if it is applied to the affected part. From these cooked in water with the leaves of *Aria Bepou*, a decoction is prepared, very useful in infections, fevers and other malignant diseases. The root taken in any manner moves the bowels.

Murraya koenigii (L.) Spreng., Syst. 2: 315. 1825; Manilal & Sivar., Fl. Calicut 60. 1982; Sasidh. & Sivar., Fl. Thrissur 86. 1996; Sivar. & Philip, Fl. Nilambur 128. 1997. -*Bergera koenigii* L., Mant. 1: 563.1767 [RUTACEAE].

Kari-bepou Rheede, Hort. Malab. 4: 109-110, t. 53.1683.

The name Kari-vepu (Malayalam script on t. 53) is still used; kari ["ri" pronounced as in "ring"] means curry and vepu refers to *Murraya* [curry leaf]. The leaves are used as flavoring in curries. It is cultivated in almost every household in Malabar.

Place mentioned is Angie caymaal, which is now now as Ernakulam, a part of the city of Cochin.





Kari-vetti

FIG. 54.



ARI-VETTI of the Malabaris, *Pada-daliqui* of the Brahmins, *Querillas* of the Portuguese, *Hartenhaver* of the Belgians, is a tree of medium size, with a thick yellowish stem, covered with an ash coloured bark, provided with many red quadrangular branches.

Root fibrous, white, covered with an ash- coloured bark, red inside; without smell, of sharp taste.

The leaves are two by two, opposite to each other, oblong- round, acuminate, serrate in the margin, thick, dense, glabrous, dark-green, shining on the upper surface, on the lower not at all (shining), odourless, insipid; the mid-rib white and very much pronounced on the lower side, from which many very fine nerves arise towards the upper side, which are intertwined in an arched manner. But the very tender leaves coming out from the branches are first light ash coloured, then purple, and finally become dark-green.

Florets arise in racemes at the tips of shoots, are very small, sweet smelling, insipid, purple, these consist of a single leaf, but cut into four deep flaps, so

that they appear as many, with two stamens, provided with yellow apices, occupying the middle.

In the same manner, oblong-round, red-blue berries follow the florets, and are inside filled with succulent and bitter flesh, inside which is placed a white glabrous stone, enclosing a white, light bitter kernel.



Fig. 54

Grows everywhere in Malabar, especially around Cochin, is always green, bears fruits every year, namely in the month of August, and remains fruit-bearing for long.

(Its Uses)

Further, the juice pressed out from the leaves of this tree and administered with whey, is an excellent promoter of vomiting and by driving out bilious and phlegmatic fluids through the upper way, efficaciously purges the stomach.

Olea dioica Roxb., [Hort. Beng. 3. 1814, nom. nud.] Fl. Ind. 1: 105. 1820; Manilal & Sivar., Fl. Calicut 158. 1982; Manilal, Fl. Silent Valley 173. 1988; Sasidh. & Sivar., Fl. Thrissur 275. 1996; Sivar. & Philip, Fl. Nilambur 405. 1997. -*Olea malabarica* Kostel., Allg. Med.-Pharm. Pl. 3: 1000. 1834 [OLEACEAE].

Kari-vetti Rheede, Hort. Malab. 4: 111-112, t. 54. 1683.

The name Karivetti [Malayalam script t. 54] is still used; kari ["ri" here pronounced as in "very"] here means black and vetti means a tree of worthless timber (a useless tree). The tree is much used as a source for charcoal. It is very common in northern Malabar. The leaflets are variable, from entire to serrate and membranous to chartaceous.

Place name mentioned is Cochin, of the same name now also.

Pevetti

FIG. 55.



PEVETTI of the Malabar, *Doudalagui* of the Brahmins, *Satilhas* of the Portuguese, *Moorenkappen* of the Belgians, is a tree of just size, with a thick, white stem, covered with an ash-grey bark and provided with many ash-coloured branches.

Root fibrous, white-yellow, covered with a red bark, inside purple; of woody taste and smell.

Leaves in pairs adhere to branches in a parallel fashion, are oblong round, and ending in a tip, thick, glabrous, soft, shining, mid-rib thick, and much pronounced on the lower side, from which very many fine nerve-lets run towards the top; taste acid-biting (contracting), smell nil.

Florets are attached many joined together to the origin of the leaves, are very small, without smell, insipid, formed of six round, acuminate, light yellow leaflets, twisted outwards, with a small, white, style with a yellow head occupying the middle.

Smooth, round, acuminate berries succeed the florets, are furrowed into ten angles, purple, glabrous, shining and the inside divided into ten locules by

means of certain membranous skins, in which are placed as many oblong-round, triangular, golden yellow, glabrous, inside white, bitter-sweet achenes; so that each one is hidden in its cell.

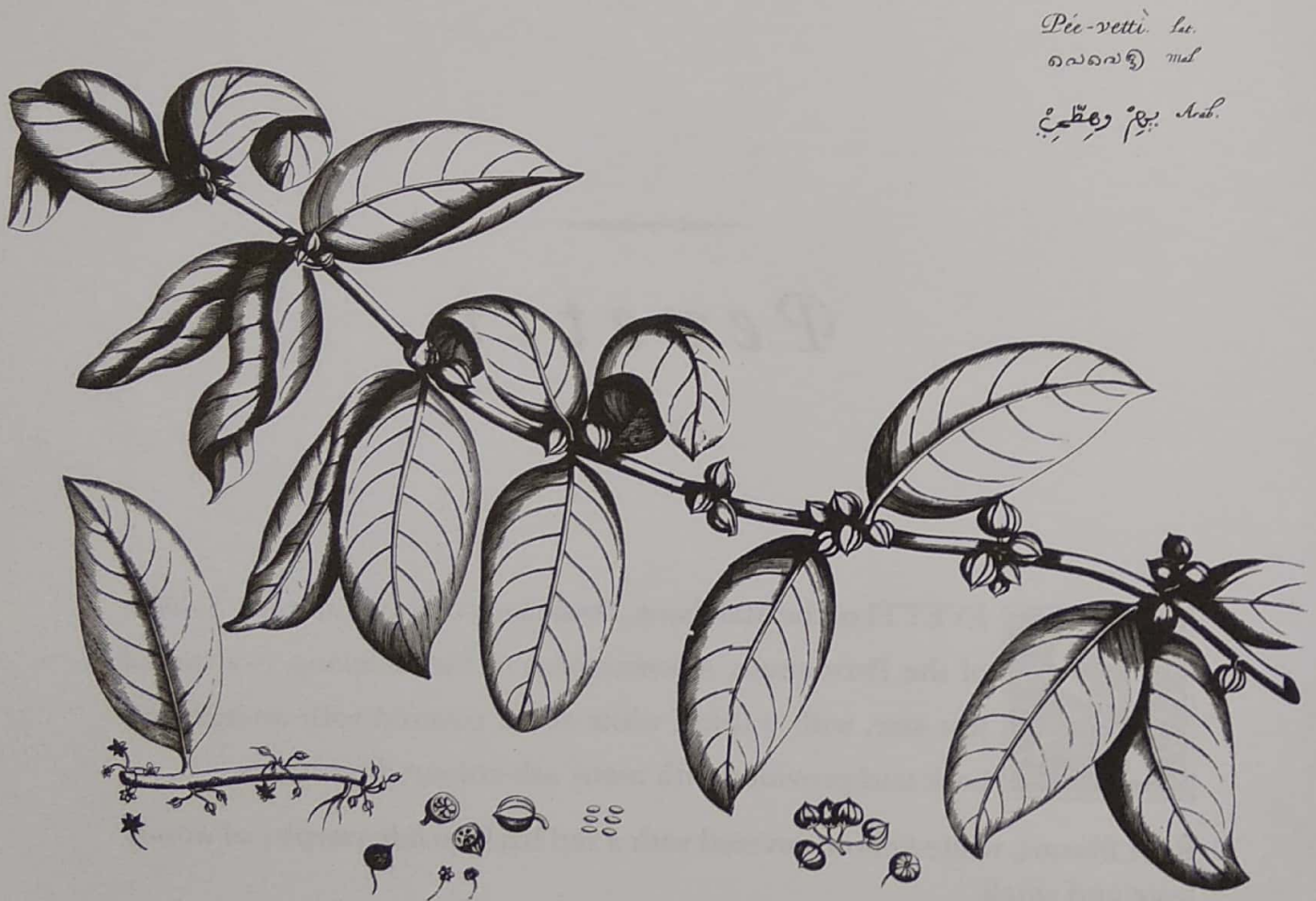


Fig. 55

Grows everywhere in Malabar, chiefly around Paloerty; is always green, every year bears fruits, namely in the month of August and not rarely fruitful for eighty years.

(Its Uses)

For the rest, from the leaves of the tree an ointment good for wounds is prepared.

Glochidion zeylanicum (Gaertn.) A. Juss., Tent. Euphorb. 107, t. 3. 1824; Manilal & Sivar., Fl. Calicut 260. 1982; Sasidh. & Sivar., Fl. Thrissur 405. 1996; Sivar. & Philip, Fl. Nilambur 623. 1997. -*Bridelia zeylanica* Gaertn., Fruct. 2: 128, t. 109. 1790 [EUPHORBIACEAE].

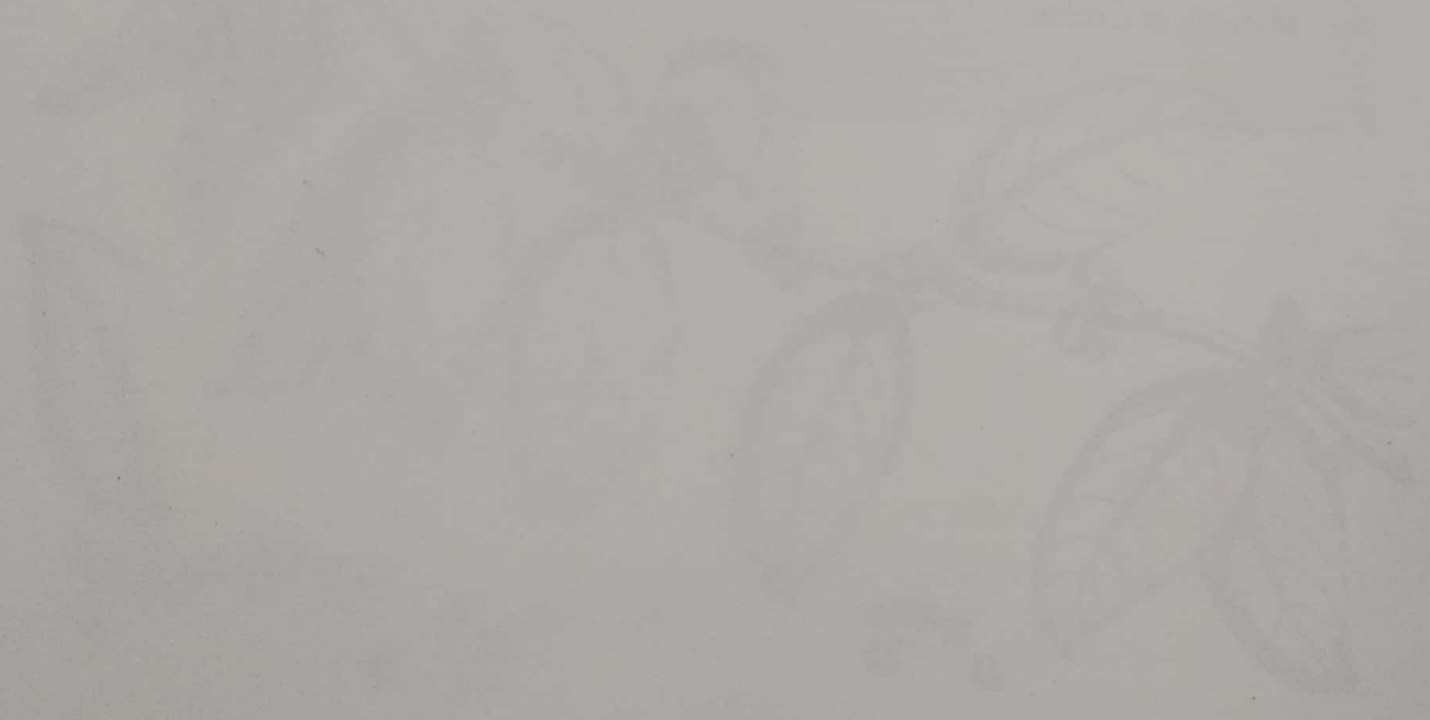
Pevetti, Pee-vetti Rheede, Hort. Malab. 4: 113, t. 55. 1683.

The name Peevetti [Malayalam script on t. 55] is not in use. Pee here means bad, poisonous, devilish; vetti means a rather useless tree. It commonly occurs near waste places and streams throughout Malabar.

Place name mentioned is Paloerty, which is Palluruthy, a southern suburb of the city of Cochin.

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Noeli-tali
or
Berberis Indica Aurantiae Folio

FIG. 56.



OELI-TALI of the Malabar, *Bestram* of the Brahmins, *Cordoeira* of the Portuguese, *Vlashout* of the Belgians, is a tree of medium size, with a medium thick, white, dense stem, covered with an ash-coloured bark, and provided with many green branches

Root red, covered with a dark bark, and also spread wide through the soil by means of its fibres; taste biting, smell woody.

Leaves adhere to small branches without any order, are oblong round, and drawn into a sharp point not dissimilar to the leaves of aurantia apple, except that appendage, which the leaves of this tree lack, are thick, glabrous, dense, dark-green, shining, odourless, tasteless, with some nerves running into the sides from the mid-rib.

Florets, many hang together in racemes from a slender pedicel, are one twelfth of an inch and one eighth of an inch, little sour, without smell; these are formed of very small, pale green buds, with three very small white, overtopping stamens.

Cylindrical, slender berries follow the florets, becoming red as they mature, with acid and biting taste, very similar to the fruits of Berberi.

Grows everywhere in Malabar, chiefly around Repolyn, is always green, and bears fruits and not rarely remains fruit-bearing for seventy years.



Fig. 56

(Its Uses)

Further, from the bark of this tree, not otherwise as in *cannabis*, ropes are made. Fruits are eaten as a delicacy and these ungently cool, like Berberis. The leaves are considered an antidote to the sting of cobra called *Heretimandel*

by the Malabaris, by the sting of which people do not die immediately but in the meantime the flesh of the whole body corrupts, putrefy, fall down and finally after so many miseries they die; unless they use a drink which is made from these leaves boiled in water with salted fruit of mango.

Antidesma menasū (Miq. Tulasne) Müll.-Arg. in DC., Prodr. 15(2): 257. 1866; Manilal & Sivar, Fl. Calicut 272. 1982; Manilal, Fl. Silent Valley 245. 1988; Sivar. & Philip, Fl. Nilambur 605. 1997. - *Antidesma pubescens* var. *menasu* Miq. ex Tulasne, Ann. Sci. Nat. Bot. ser. 3, 15: 215. 1851 [EUPHORBIACEAE].

Noeli-tali, Nuli-tali Rheede, Hort. Malab. 4: 115-116, t. 56. 1683.

The name Nooli-tali (Malayalam script on t. 56) is still used; nool means thread and nooli (noeli) means which produces [or is like] thread or rope, a refers to its use in making ropes; tali means shampoo or lotion, reference not clear. This is the most common species of *Antidesma* in Malabar and is found in upland areas.

Heretemandal is the highly poisonous snake called *Rakta mandali* in Malayalam language.

Place name mentioned is Repolyn, the locality now called Edappalli, on the outskirts of the northern side of the city of Cochin.



Poutaletsje

FIG. 57.



OUTALETSJE of the Malabaris, *Barsoti* of the Brahmins, *Ilata* of the Portuguese, *Waak-blad* of the Belgians, is a small, low shrub, with a slender stem becoming yellow from white, covered with a dark bark, provided with many green quadrangular and knotted branches.

Root white, covered with an ash-coloured bark, of greasy and slight biting taste, of wood smell.

Leaves in pairs arise around small branches in a parallel fashion, are oblong-round, acuminate, thick, dense, glabrous, green on the upper surface, with some nerves running to the sides from the mid-rib, much pronounced on the lower side; smell and taste woody.

Flowers very small, without smell, without taste, arise on the extremities of the shoots and spread out on erect columns in the form of an umbrella and are placed in a white, downy, quadripartite calyx by means of a long collar, formed of four bluish-purple, acuminate leaflets, twisted towards the outside,

these leaflets come in between as many white stamens, provided with bluish apices, with a purple style occupying the middle.

When the florets fall down, succeed oblong light blue berries, filled inside with numerous dark seeds, are aromatic, not sweet-smelling.

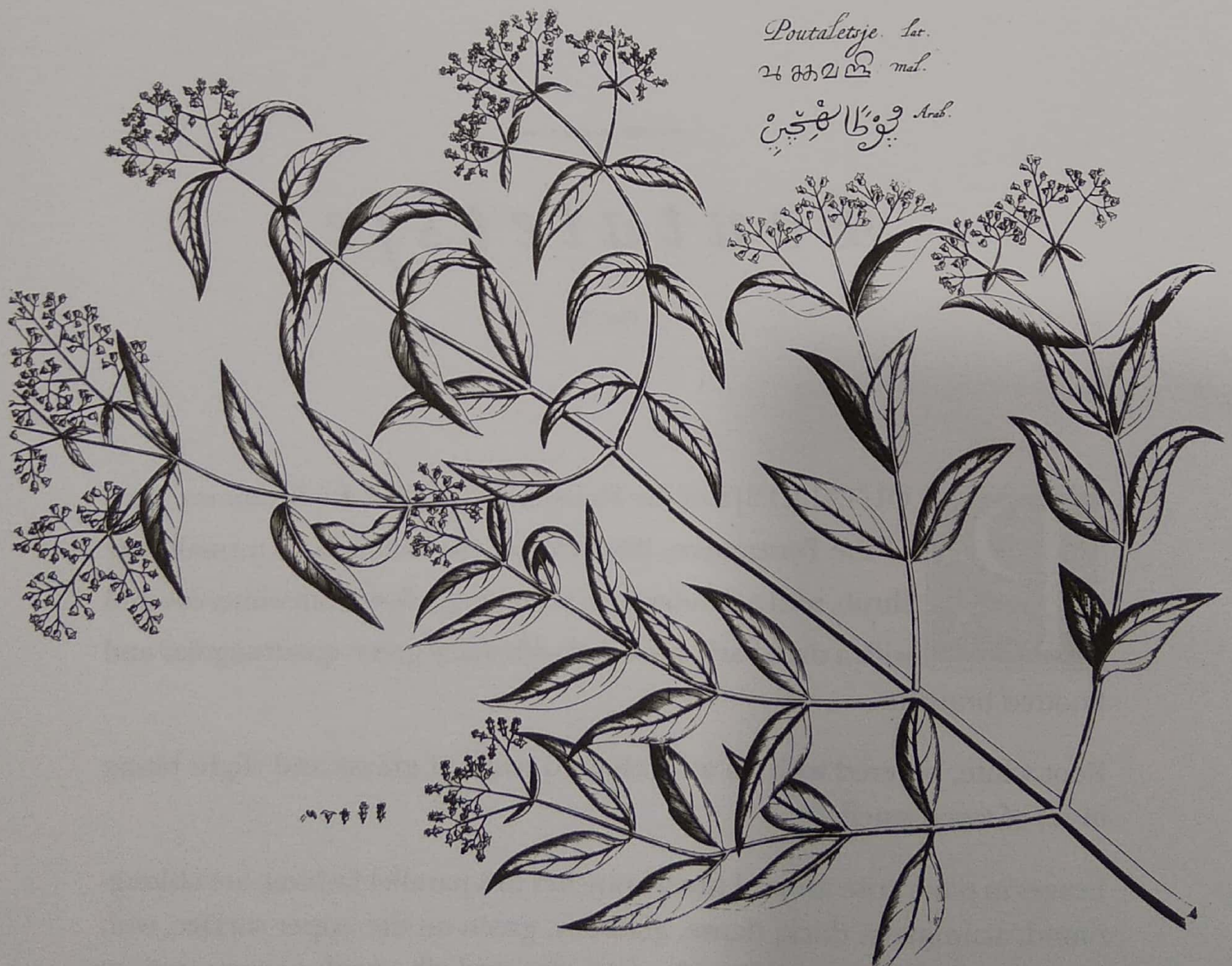


Fig. 57

Grows everywhere in Malabar, chiefly around Cochin; is always green, flowers in the months of July and August, and survives for a long time.

(Its Uses)

Further, from the leaves of the tree boiled in milk a drink is prepared which presents sleep and also is useful for those suffering from drowsiness, and other sleepy affections. From the leaves, flowers, bark, root, and other parts boiled in water, a bath is made useful in curing epilepsy and other spasmodic affections.

Hedyotis pruinosa Wight & Arn., Prodr. 408. 1834; Ridsdale in Manilal, Bot. Hist. Hort. Malab. 131. 1980. -*Lawsonia purpurea* Lam., Encycl. 3: 107. 1789, non *Hedyotis purpurea* Torrey & Gray, Pl. N. Amer. 2: 40. 1841. *Rondeletia lawsoniae* DC., Prodr. 4: 413. 1830, nom. illeg. (incl. type of *Lawsonia purpurea* Lam. 1789). *Wendlandia lawsoniae* D. Dietr., Syn. Pl. 1: 740. 1839, nom. illeg. (incl. type of *Lawsonia purpurea* Lam. 1789). *Hedyotis lawsoniae* Wight & Arn., Prodr. 407. 1834, nom. illeg. (incl. type of *Lawsonia purpurea* Lam. 1789) [RUBIACEAE].

Poutaletsje Rheede, Hort. Malab. 4: 117-118, t. 57. 1683.

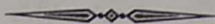
The name Poothalachi (Malayalam script on t. 57) is not known to be used now; Poo means flower; thalachi is from "thalappathu" meaning "at the tip". The name means "one (female) with flowers at the tips of branches". No other Malayalam name is known for this now. It is very rare in Malabar and has not been collected recently.

Place name mentioned is Cochin, of the same name now also.

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research. It also provides a brief overview of the methodology used in the study.

2. The second part of the report is a detailed description of the study area. It includes information about the location of the study area, the population of the study area, and the characteristics of the study area. It also discusses the data sources used in the study.

3. The third part of the report is a detailed description of the study results. It includes information about the findings of the study, the conclusions drawn from the findings, and the implications of the findings. It also discusses the limitations of the study and the need for further research.



Modagam

FIG. 58.



THE small tree which is called *Modagam* by the Malabaris, *Corotha* by the Brahmins, *Ammaco* by the Portuguese, *Hondts-tongh* by the Belgians, equals the measure of about twelve feet in height and four feet in thickness, is provided with white green branches spread wide in all directions; wood white, covered with ash-coloured bark.

Root white, covered with a dark bark, of woody smell and taste.

Leaves arise around the ultimate branch-lets on winged petioles, are oblong round, thick, dense, glabrous, dark green and shining on the upper side, light green on the lower, with certain nerves running to the sides from the thick, white mid-rib, with woody taste and smell. But when these leaves fall down, circle (surround) the branches of the tree, leaving their vestige in circular, pronounced rings.

Flowers, many joined together arise on the tips of branches, are sweet-smelling, white, similar to the flowers of *Rhododendron*, are placed in a

green calyx, divided into five flaps, are formed of five sub-round leaves, with as many white, stamens having yellow apices, occupying the middle cavity and centre of the flower, among which comes out a white style with a green head.

Molagani. Sw.
മോളാണി. മല.

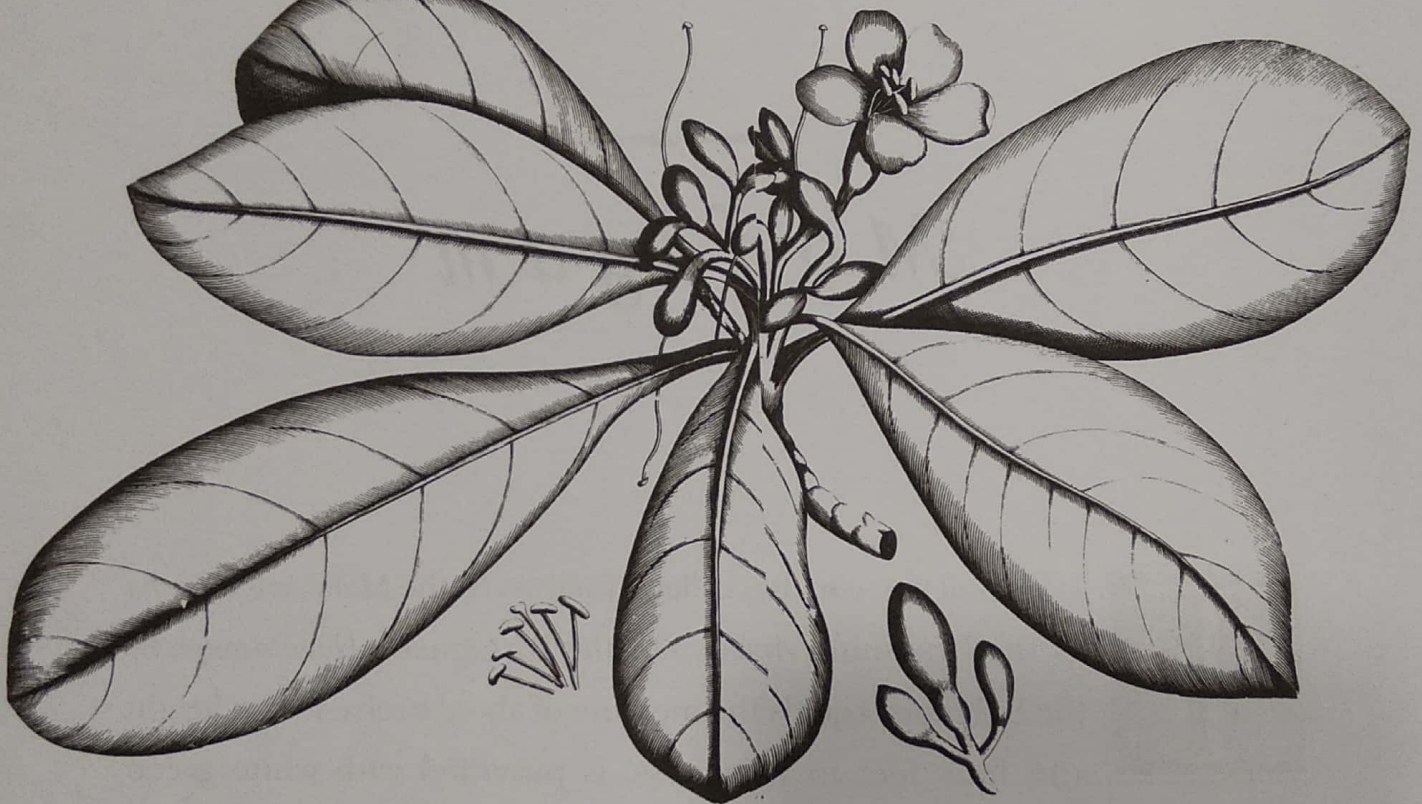


Fig. 58

Fruits are pear-shaped, green, numerous, biting, inside fungous, filled with very minute granules.

Grows every where in Malabar, chiefly around Kandenate, is always green, flowers and bears fruits, but does not remain fruitful for long.

(Its Uses)

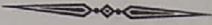
For the rest, from the bark and root of the tree, boiled in water, a decoction is prepared, useful for removing chronic head-ache. From the leaves a drink is made for provoking suppressed menses.

Fagraea ceilanica Thunb., Kongl. Vetensk. Acad. Nya Handl. Stockholm 3: 132, t. 4. 1782; Leenhouts in Fl. Males. 1,6: 315. 1962; Manilal & Sivar., Fl. Calicut 172. 1982; Manilal, Fl. Silent Valley 180. 1988; Sasidh. & Sivar., Fl. Thrissur 295. 1996; Sivar. & Philip, Fl. Nilambur 429. 1997. -*Fagraea obovata* Wall. in Roxb., Fl. Ind. 2: 33. 1824. *Bertuchia speciosa* Dennst. ex Kostel., Allg. Med.-Pharm. Fl. 5: 2002. 1836. *Fagraea malabarica* Bl., Rumphia 2: 29. 1838, nom. illeg. (incl. typ. of *Bertuchia speciosa* Kostel. 1836) [LOGANIACEAE].

Modagam Rheede, Hort. Malab. 4: 119, t. 58. 1683.

The name Modagam [Malayalam script on t. 58] is still used. The name is perhaps from Modu [or Medu], meaning small hills, which are its favourite habitat. It is common along upland forest margins of Malabar.

Place name mentioned is Kandenate, which is the present Candanaadu.



Bella Modagam

FIG. 59.



THE tree which is called *Bella-Modagam* by the Malabaris, *Tacorotha* by the Brahmins, *Ammaco Macho* by the Portuguese, *Groot herts* by the Belgians, is a beautiful and tall tree, with a thick stem, covered with a white bark; provided with very many, green small branches, filled inside with a fungous core.

Root white, covered with a yellowish bark, of sharp taste, of woody smell.

Leaves, similar to the leaves of the preceding tree both in shape and size.

Flowers, sweet smelling, insipid, arise many joined together at the tips of branches, are in a green calyx, divided into five acuminate flaps, these are formed of a single, oblong-round, bifid and sometimes trifid leaf, white striated and downy on the upper side, on the lower green-white, with five slender stamens occupying the middle among which comes out a white, oblong style with a round head.

Fruits sub-round, green, glabrous, not dissimilar to grapes, but furrowed into five corners and crowned at the tip with an erect calyx of the flowers,

surrounded by a thick skin and inside filled with green and biting flesh, inside which is placed a white stone enclosing a white kernel.

Grows in sandy as well as mountainous places in Mangatti, is always green, flowers and bears fruits and remains fruitful for a long time.

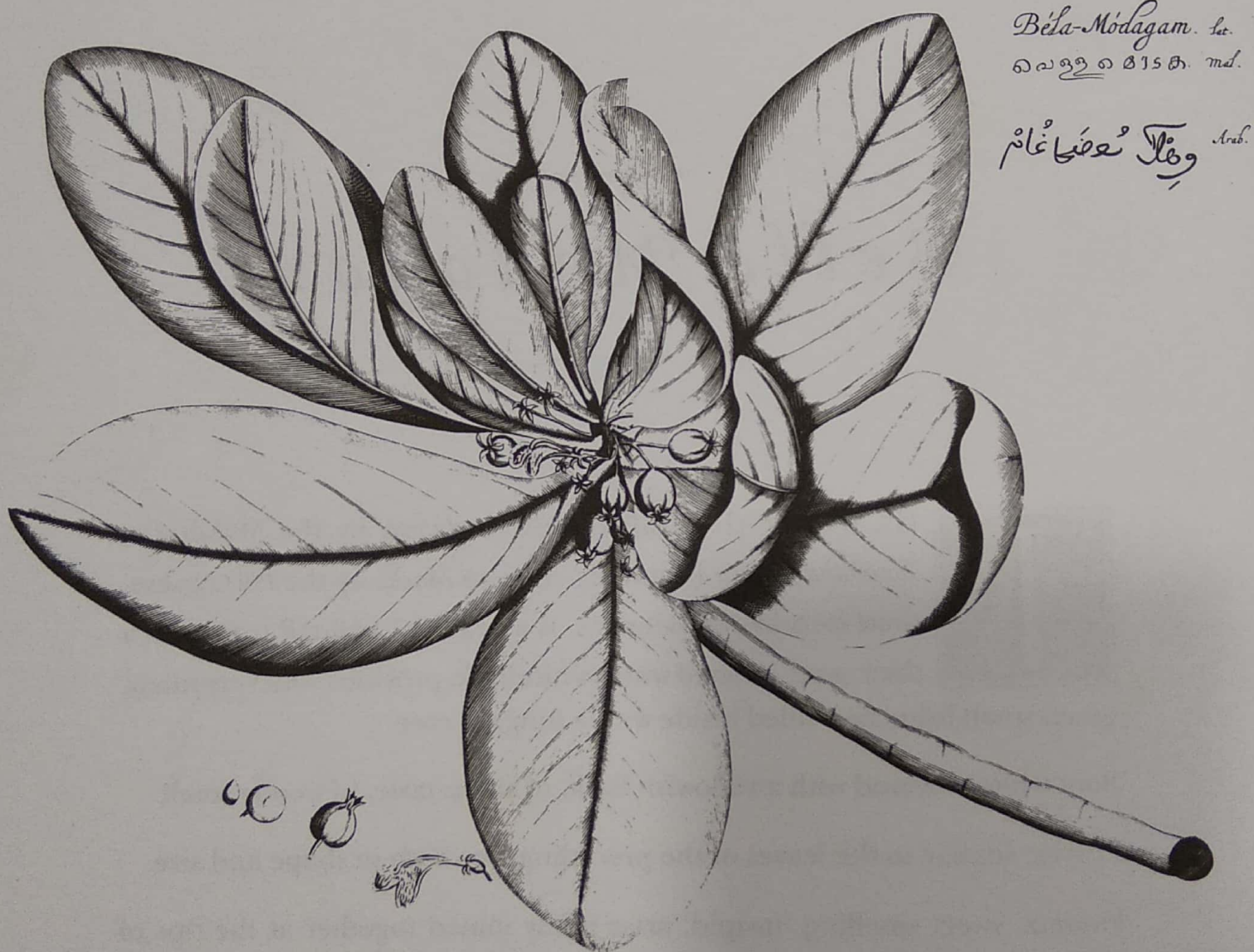


Fig. 59

(Its Uses)

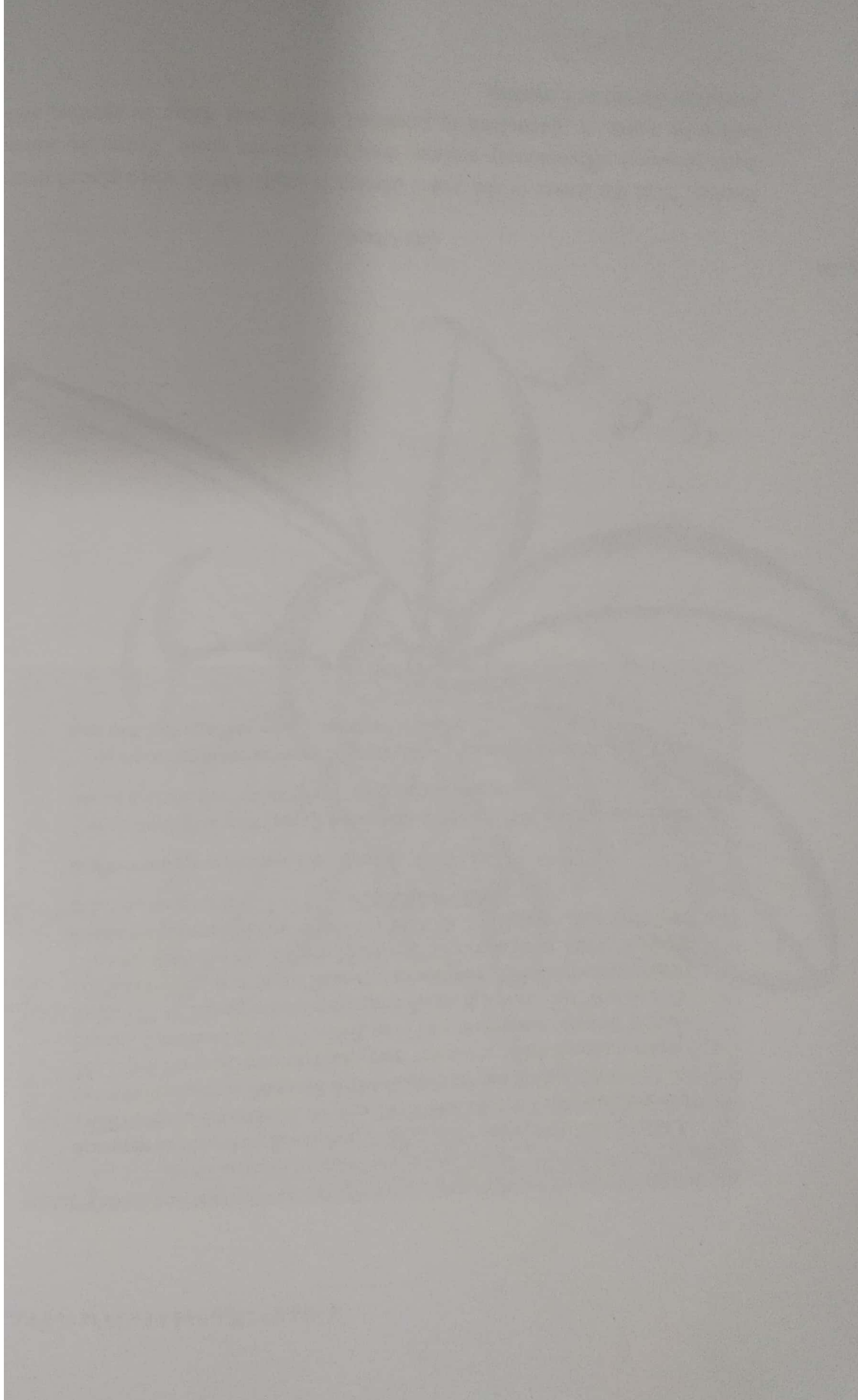
Further, from the leaves of the tree a plasma is made which when placed over boils (tumors) efficaciously softens them and ripens them. From the same boiled in water, a decoction is prepared which sets urine in motion and provokes obstructed menses.

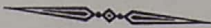
Scaevola sericea Vahl, Symb. Bot. 2: 37. 1791; Jeffrey, Kew Bull. 34: 543. 1980. -*Lobelia taccada* Gaertn., Fruct. 1: 119, t. 24, f. 5. 1788, non *Scaevola taccada* Roxb., Hort. Beng. 15. 1814. *Scaevola koenigii* Vahl, Symb. Bot. 3: 36. 1794. *Scaevola taccada* Roxb., Hort. Beng. 15. 1814. *Roemeria lobelia* Dennst., Schlüssel 13, 19, 30. 1818, nom. illeg. (incl. type of *Scaevola taccada* Roxb. 1814). *Scaevola bela-modagam* Roem. & Schult., Syst. Veg. 5: 163. 1819, nom. illeg. (incl. type of *Scaevola taccada* Roxb. 1814). *Scaevola taccada* (Gaertn.) Roxb., Fl. Ind. 2: 146. 1824, non *S. taccada* Roxb. 1814. *Scaevola frutescens* Krause, Pflanzenr. (IV.277) 54: 125. 1912, nom. illeg. (incl. type of *Scaevola sericea* Vahl 1791) [GOODENIACEAE].

Bella-modagam Rheede, Hort. Malab. 4: 121-122, t. 59. 1683.

The name *Bella-modagam* [Malayalam script on t. 59] is still in use. *Bella* [Vella] is white. [for "modagam" ref. previous species].

The place name mentioned is Mangatti, now known as Alangadu, the region east of Kodungalloor, where there are low hills.





Tondi Teragam

FIG. 60.



HIS tree is called *Tondi-Teragam* by the Malabaris, *Tondi Karavatti* by the Brahmins, *Folhas de Raspa Macho* by the Portuguese, *Groot Riff-blad* by the Belgians; is tall, about sixty feet tall, with a thick stem, provided with very many straight, long, dark-green, downy, rough branches, filled inside with fungous core, wood white, covered with a black bark.

Root fibrous, white, milky, covered with a red, golden yellow bark, not sweet smelling, of sharp taste.

Leaves in pairs arise around small branches on long petioles in a parallel fashion, are oblong round, acuminate, crenate in the margin, thick, soft, glabrous, green and shining on the upper side, light-green and downy on the lower, with some nerves running into the sides from a thick and downy mid-rib, standing out on the lower side; smell sweet, taste aromatic.

Florets arise around small branches on oblong pedicels from the internal seat of leaves, in threes or many collected together, are purple, when crushed in the hand sweet smelling, and are in a green, downy and quadripartite

calyx, formed of four acuminate leaflets, these leaves come in between as many purple stamens, with a beautiful reddish style with a white head occupying the middle.

The Malabaris testify that this tree bears no fruits.

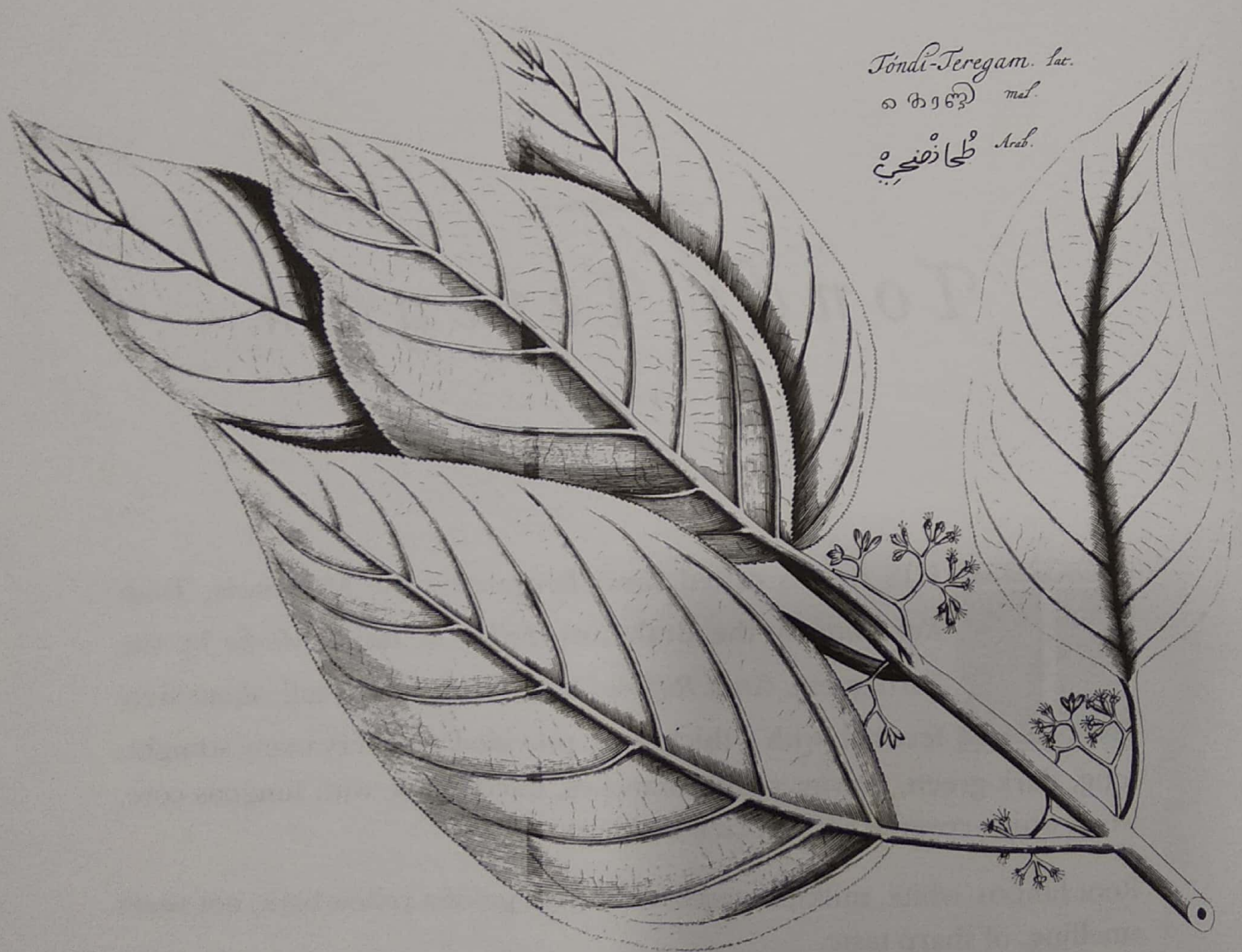


Fig. 60

Grows in sandy and rocky places in Mangatti. Produces flowers in the months of July and August; lives for a long time.

(Its Uses)

Again, a preparation from the stem and leaves, cooked in milk is made for Aphthis (small, whitish ulcer on the surface of mucous membranes). A

decoction of bark and root in water, if given, (apozema) clears herpes (skin diseases of various kinds, with spreading clusters of vesicles on an inflamed base), scabies and other similar affectations.

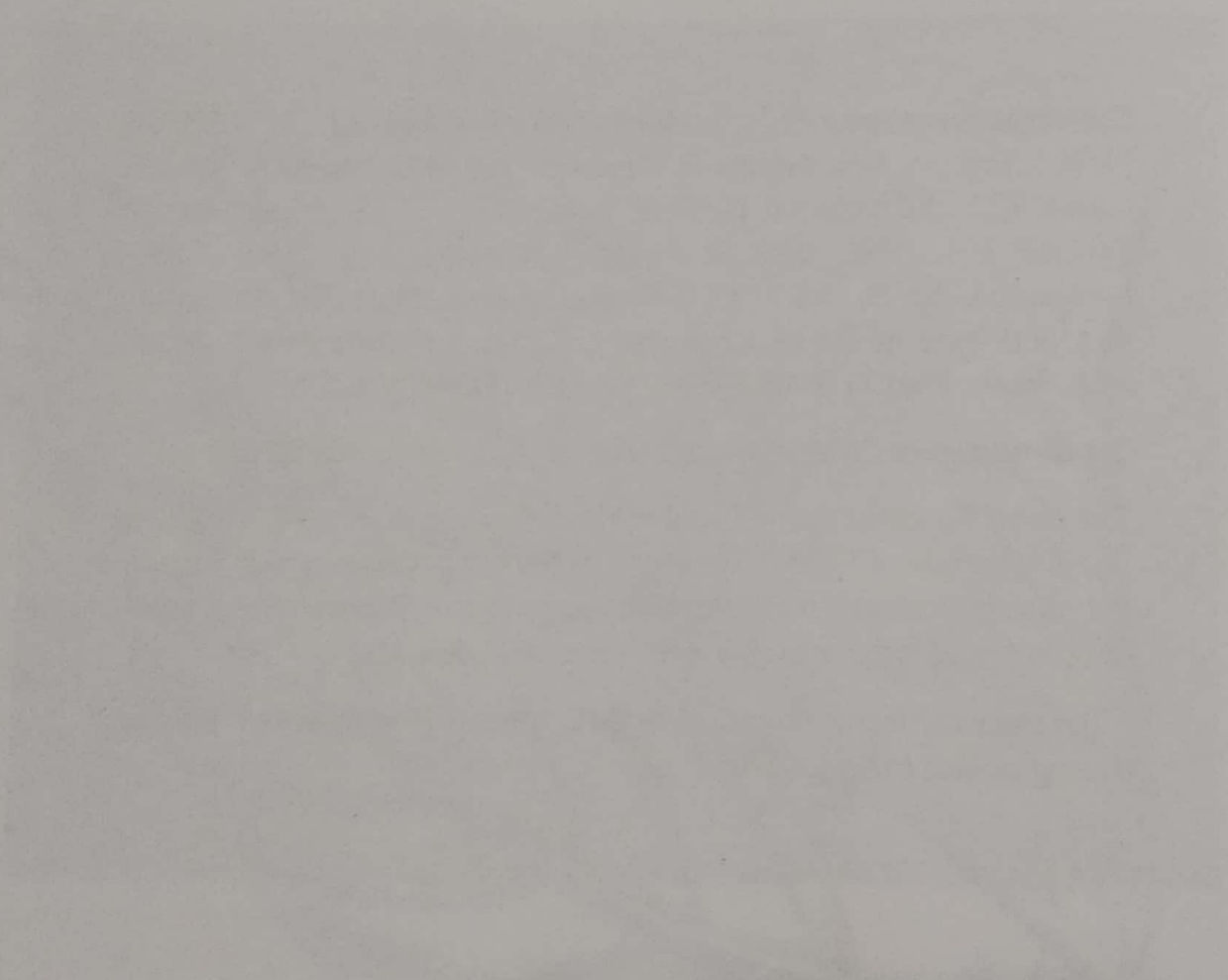
Callicarpa tomentosa (L.) L. in Murray (ed.), Syst. Veg. ed. 13, 130. 1774; Mold. in Dassan., Rev. Handb. Fl. Ceylon 4: 299. 1983; Manilal & Sivar., Fl. Calicut 227. 1982; Manilal, Fl. Silent Valley 213. 1988; Sasidh. & Sivar., Fl. Thrissur 351. 1996; Sivar. & Philip, Fl. Nilambur 529. 1997. -*Tomex tomentosa* L., Sp. Pl. 118. 1753. *Callicarpa lanata* L., Mant. 331. 1771, nom. illeg. (incl. type of *Tomex tomentosa* L. 1753). *Callicarpa rheedei* Kostel., Allg. Pharm.-Med. Fl. 3: 829. 1834 ('*rheedii*') [VERBENACEAE].

Tondi-teregam Rheede, Hort. Malab. 4: 123-124, t. 60. 1683.

The name Tondi-teragam [Tondi in Malayalam script on t. 60] is not used; Tondi is female of Tondan, meaning old, or having dark/thick skin. Teregam denotes rough leaves. No other Malayalam name is known to be in use for this plant now. It occurs along forest margins in uplands.

The place name mentioned is Mangatti, which is now known as Alangadu, the region east of Kodungalloor.

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Ramena-pou-maram

FIG. 61.



AMENA-POU-MARAM of the Malabaris, *Brampou* of the Brahmins, *Estrela d'alva* of the Portuguese, *Morgen sterren* of the Belgians, is a tall tree, about seventy feet tall, with a thick dense, white stem, covered with a dark, rough bark, provided with very many branches spread far and wide.

Root yellowish, covered with black bark, sweet smelling, aromatic.

Leaves arise around the tips of small branches on oblong petioles, are oblong-round, thick, glabrous, dark-black and shining on the upper side, light green on the lower, with some nerves running into the sides from the mid-rib, very much pronounced on the lower side; smell sweet, taste woody. Moreover these leaves when fall down, unlike the leaves of *Modagam*, leaving their scar, surround the small branches of the tree with circular, pronounced rings.

Flowers adhere to the tips of branches, in racemes, are sweet-smelling, formed of five acuminate, pale red, inside downy leaflets spread out in the manner

of star, with a white style occupying the middle, provided with a tripartite apex with a white, overlapping plumule at the tip.

Fruits rarely follow the flowers, the Malabaris however testify that at times this tree bears oblong-round, yellow-purple berries.

Grows in mountainous places in Berkencour.

Nothing is known about its powers.

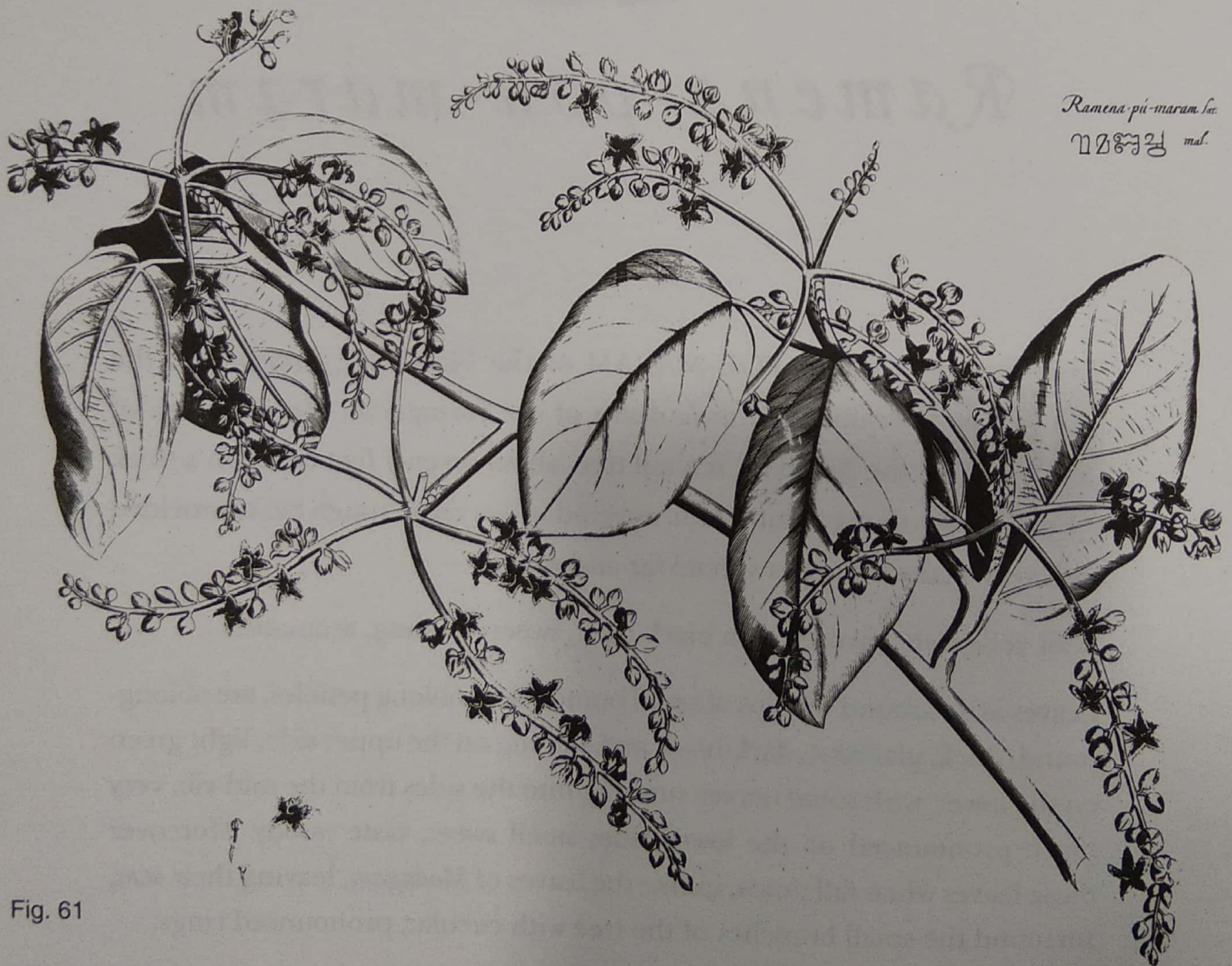


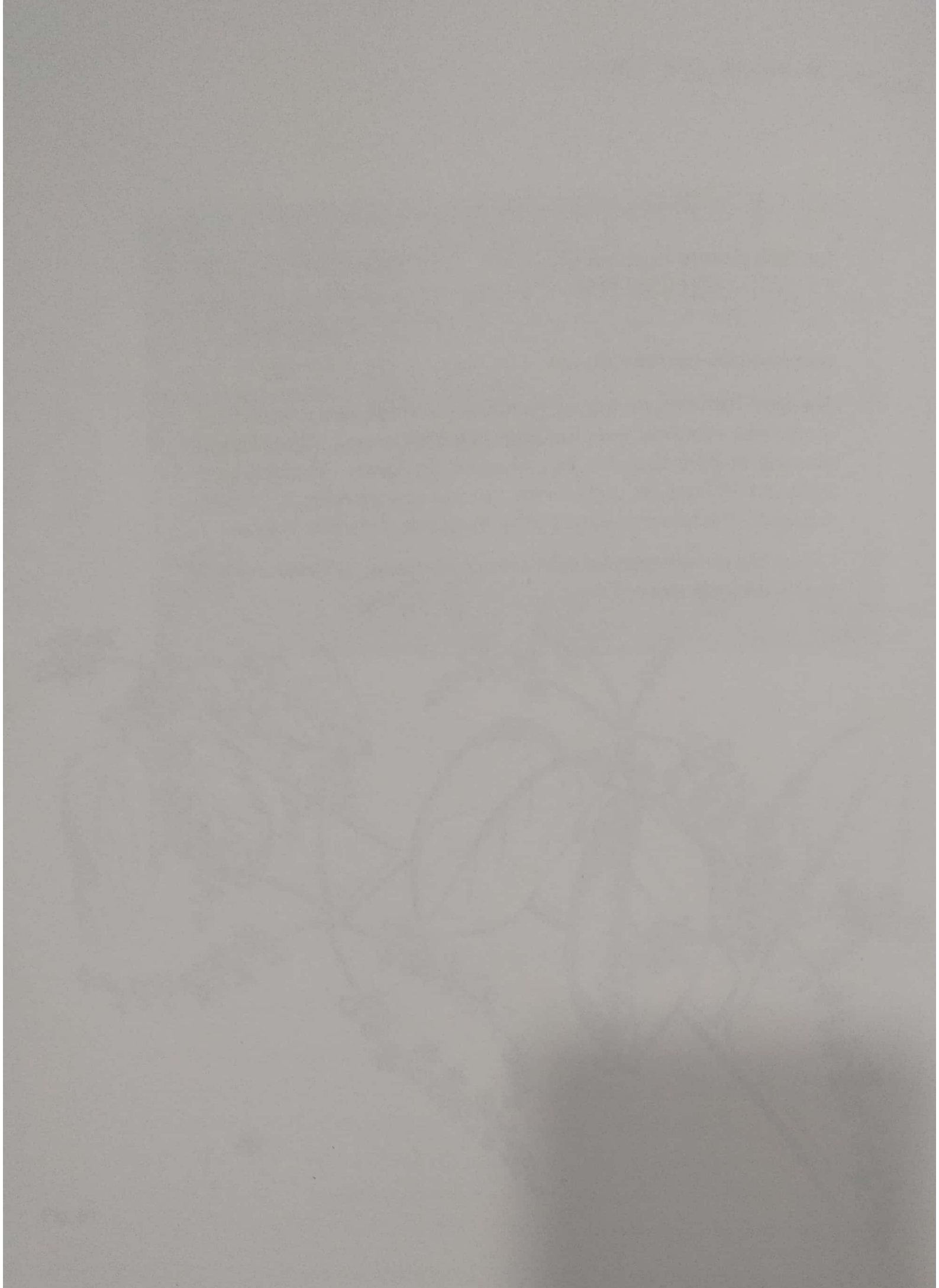
Fig. 61

Sterculia guttata Roxb. ex DC., Prodr. 1:482. 1824; Manilal & Sivar., Fl. Calicut 51. 1982; Manilal, Fl. Silent Valley 33. 1988; Sasidh. & Sivar., Fl. Thrissur 70. 1996; Sivar. & Philip, Fl. Nilambur 103. 1997 [STERCULIACEAE].

Ramena-pou-maram Rheede, Hort. Malab. 4: 125, t. 61. 1683

The name Ramannapoo-maram [Ramannapoo in Malayalam script on t. 61] is not used. Raamana, from Raavanan (the bitter enemy of Lord Rama), meaning repulsive, alludes to the bad smell of the flowers. The name used today is Pottakavalam; potta means bad and kavalam refers to *Sterculia balanphas*. This species is very common in uplands of northern Malabar.

The place name mentioned is Berkencour, now known as Vadakkumkoor, the region south east of Cochin.



INDEX - 1
VOL. & FIG. NUMBERS WITH MALAYALAM NAME,
SCIENTIFIC NAME AND FAMILY NAME

Volume / Fig. / Year	Malayalam Name	Scientific Name	Family
4: 1-4, t. 1-2. 1683	Mau	<i>Mangifera indica</i> L.	ANACARDIACEAE
4: 5-7, t. 3-4. 1683	Adamaram	<i>Terminalia catappa</i> L.	COMBRETACEAE
4: 9-10, t. 5. 1683	Panam-palca	<i>Myristica malabarica</i> Lam.	MYRISTICACEAE
4: 11-13, t. 6. 1683	Caipa-tsjambu	<i>Barringtonia racemosa</i> (L.) Spreng.	LECYTHIDACEAE
4: 11-13, t. 6. 1683	Samstravadi	<i>Barringtonia racemosa</i> (L.) Spreng.	LECYTHIDACEAE
4: 15, t. 7. 1683	Tsjeria-samstravadi	<i>Barringtonia acutangula</i> (L.) Gaertn.	LECYTHIDACEAE
4: 17-18, t. 8. 1683	Malla-katou-tsjambou	<i>Santalum album</i> L.	SANTALACEAE
4: 19-21, t. 9. 1683	Cheru	<i>Holigarna arnottiana</i> J. Hook.	ANACARDIACEAE
4: 19-21, t. 9. 1683	Katou-tsjeroe	<i>Holigarna arnottiana</i> J. Hook.	ANACARDIACEAE
4: 23-24, t. 10. 1683	Tani	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	COMBRETACEAE
4: 25-26, t. 11. 1683	Tsjem-tani	<i>Rumphia amboinensis</i> L.	(Insertae Sedis)
4: 27-28, t. 12. 1683	Mal-naregam	<i>Atalantia monophylla</i> (L.) DC.	RUTACEAE
4: 29-30, t. 13. 1683	Katou-naregam	<i>Catunaregam spinosa</i> (Thunb.) Tirvengadum	RUBIACEAE
4: 31.32, t.14. 1683	Tsjerou-katou-naregam	<i>Naringi crenulata</i> (Roxb.) Nicols.	RUTACEAE
4: 33-34, t. 15. 1683	Paenoe	<i>Vateria indica</i> L.	DIPTEROCARPACEAE
4: 37-38, t.16. 1683	Nialel	<i>Aglaiia elaeagnoidea</i> (Juss.) Benth.	MELIACEAE
4: 37-38, t.16. 1683	Nyalel	<i>Aglaiia elaeagnoidea</i> (Juss.) Benth.	MELIACEAE
4: 39-40, t. 17. 1683	Angolam	<i>Alangium salvifolium</i> (L.f.) Wangerin subsp. salvifolium	ALANGIACEAE
4: 41-42, t.18. 1683	Idou-moulli	<i>Scleropyrum pentandrum</i> (Dennst.) Mabb.	SANTALACEAE
4: 43-44, t. 19. 1683	Poerinsii	<i>Sapindus trifoliata</i> L.	SAPINDACEAE
4: 45-46, t. 20-21. 1683	Adamboe	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE

4: 45-46, t. 20-21. 1683	Cadali-poea	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE
4: 47, t. 22. 1683	Katou-adamboe	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE
4: 49-50, t. 23. 1683	Karin-kara	<i>Xanthophyllum arnottianum</i> Wight	XANTHOPHYLLACEAE
4: 51-52, t. 24. 1683	Perin-kara	<i>Elaeocarpus serratus</i> L.	ELAEOCARPACEAE
4: 53-54, t. 25. 1683	Manyl-kara	Manilkara kauki (L.) Dubard	SAPOTACEAE
4: 55-56, t. 26. 1683	Kara-angolam	<i>Alangium salvifolium</i> (L.f.) Wangerin subsp. sundanum (Miq.) Bloem	ALANGIACEAE
4: 57-58, t. 27. 1683	Theka	<i>Tectona grandis</i> L.f.	VERBENACEAE
4: 59-60, t. 28. 1683	Katou-theka	<i>Psychotria dalzellii</i> J. Hook.	RUBIACEAE
4: 61-62, t. 29. 1683	Tsjerou-theka	<i>Clerodendrum serratum</i> (L.) Moon	VERBENACEAE
4: 63-64, t. 30. 1683	Ben-theka	<i>Hymenodictyon orixense</i> (Roxb.) Mabb.	RUBIACEAE
4: 65-66, t. 31. 1683	Iripa	<i>Cynometra iripa</i> Kostel.	FABACEAE
4: 67-68, t. 32. 1683	Kalesjam	<i>Lannea coromandelica</i> (Houtt.) Merr.	ANACARDIACEAE
4: 69-70, t. 33. 1683	Katou-kalesjam	<i>Garuga pinnata</i> Roxb.	BURSERACEAE
4: 71-72, t. 34. 1683	Ben-kalesjam	<i>Garuga pinnata</i> Roxb.	BURSERACEAE
4: 73-74, t. 35. 168	Pongu	<i>Hopea ponga</i> (Dennst.) Mabb.	DIPTEROCARPACEAE
4: 73-74, t. 35. 1683	Inga	<i>Hopea ponga</i> (Dennst.) Mabb.	DIPTEROCARPACEAE
4: 75-76, t. 36. 1683	Kariil	<i>Vita leucoxylon</i> L.f.	VERBENACEAE
4: 77-78, t. 37. 1683	Vidimaram	<i>Cordia obliqua</i> Willd.	BORAGINACEAE
4: 79-80, t. 38. 1683	Ponna	<i>Calophyllum inophyllum</i> L.	CLUSIACEAE
4: 81, t. 39. 1683	Tsjerou-ponna	<i>Calophyllum calaba</i> L.	CLUSIACEAE
4: 83-84, t. 40. 1683	Mallam-toddali	<i>Trema orientalis</i> (L.) Bl.	ULMACEAE
4: 85-86, t. 41. 1683	Perin-toddali	<i>Zizyphus mauritiana</i> Lam.	RHAMNACEAE
4: 87-88, t. 42. 1683	Kadali	<i>Melastoma malabathricum</i> L.	MELASTOMATACEAE
4: 89, (no plate). 1683	Ben-kadali	<i>Osbeckia</i> sp.	MELASTOMATACEAE
4: 91, t. 43. 1683	Katou-kadali	<i>Osbeckia aspera</i> (L.) El.	MELASTOMATACEAE
4: 95-96, t. 44. 1683	Tsjerou-kadali	<i>Osbeckia saxatilis</i> (Dennst.) Suresh	MELASTOMATACEAE
4: 95-96, t. 45. 1683	Oepata	<i>Avicennia officinalis</i> L.	AVICENNIACEAE

4: 97, t. 46.1686	Wadouka	<i>Capparis moonii</i> Wight	CAPPARACEAE
4: 99-100, t. 47-48.1683	Rava-pou	<i>Guettarda speciosa</i> L.	RUBIACEAE
4: 101-102, t. 49.1683	Ana-vinga	<i>Casearia ovata</i> (Lam.) Willd.	FLACOURTIACEAE
4: 103-104, t. 50. 1683	Courondi	<i>Salacia chinensis</i> L.	HIPPOCRATEACEAE
4: 105-106, t. 51.1683	Bengiri	<i>Excoecaria indica</i> (Willd.) Müll.-Arg.	EUPHORBIACEAE
4: 107-108, t. 52.1683	Aria-bepou	<i>Azadirachta indica</i> A. Juss.	MELIACEAE
4: 109-110, t. 53.1683	Kari-bepou	<i>Murraya koenigii</i> (L.) Spreng.	RUTACEAE
4: 111-112, t. 54. 1683	Kari-vetti	<i>Olea dioica</i> Roxb.	OLEACEAE
4: 113, t. 55. 1683	Pee-vetti	<i>Glochidion zeylanicum</i> (Gaertn.) A. Juss.	EUPHORBIACEAE
4: 113, t. 55. 1683	Pevetti	<i>Glochidion zeylanicum</i> (Gaertn.) A. Juss.	EUPHORBIACEAE
4: 115-116, t. 56.1683	Noeli-tali	<i>Antidesma menasu</i> (Tulasne) Müll.-Arg.	EUPHORBIACEAE
4: 115-116, t. 56.1683	Nuli-tali	<i>Antidesma menasu</i> (Tulasne) Müll.-Arg.	EUPHORBIACEAE
4: 117-118, t. 57.1683	Poutaletsje	<i>Hedyotis pruinosa</i> Wight & Am.	RUBIACEAE
4: 119, t. 58. 1683	Modagam	<i>Fagraea ceilanica</i> Thunb.	LOGANIACEAE
4: 121-122, t. 59.1683	Bella-modagam	<i>Scaevola sericea</i> Vahl	GOODENIACEAE
4: 123-124, t. 60.1683	Tondi-teregam	<i>Callicarpa tomentosa</i> (L.) L.	VERBENACEAE
4: 125, t. 61. 168	Ramena- pou-maram	<i>Sterculia guttata</i> Roxb.	STERCULIACEAE

INDEX - 2
VOL. & FIG. NUMBERS WITH MALAYALAM NAME,
KONKANI, PORTUGUESE AND DUTCH / BELGIAN NAME

Volume/Fig./Year	Malayalam Name	Konkani Name	Portuguese Name	Dutch/Belg. Name
4: 1-4, t. 1-2.1683	Mau	Ambo	Manga	Manges
4: 5-7, t. 3-4. 1683	Adamaram	Sibe	Pinha	Katappes
4: 9-10, t. 5. 1683	Panam-palca	Ambadeki	Nozde moluco falso	Wilde Mannekes Nolle-boon
4: 11-13, t. 6.1683	Caipa-tsjambu	Sada-pali	Rosario de Jambu	Wilde Jambosen
4: 11-13, t. 6.1683	Samstravadi	Sada-pali	Rosario de Jambu	Wilde Jambosen
4: 15, t. 7.1683	Tsjeria-samstravadi	Gove-sada-pali	Rosario brara	Beedelsnoeren
4: 17-18, t. 8.1683	Malla-katou-tsjambou	Malambetti	Jambos dos Bugios	Swyne-Jambosen
4: 19-21, t. 9. 1683	Cheru	Rana-bibo	Uvas d'inferno	Dulle pruymen
4: 19-21, t. 9. 1683	Katou-tsjeroe	Rana-bibo	Uvas d'inferno	Dulle pruymen
4: 23-24, t. 10. 1683	Tani	Gottinga	Biborala	Heylpeeren
4: 25-26, t. 11. 1683	Tsjem-tani	Tanis-morij	*	*
4: 27-28, t. 12. 1683	Mal-naregam	Nani	Limaodo Mato	Wilde Citroenen
4: 29-30, t. 13. 1683	Katou-naregam	Coduvo-nani	Limaao Coroado	Wilde limonene
4: 31.32, t.14. 1683	Tsjerou-katou-naregam	Citt-rana-nimba	Limonis da folha	Claver appelkens
4: 33-34, t. 15. 1683	Paenoe	Doepoe	Arvore Ensenza	Hars-boom
4: 37-38, t.16. 1683	Nialel	Lassa	Maquina	Werlingen
4: 37-38, t.16. 1683	Nyalel	Lassa	Maquina	Werlingen
4: 39-40, t. 17. 1683	Angolam	Angolam	Espinho Sancto	Keyser vreugde
4: 41-42, t.18.1683	Idou-moulli	Elasticanto	Periera dos diabos	Dulle-boom
4: 43-44, t. 19. 1683	Poerinsii	Ourinti	Sabao dos Canarins	Seepnooten
4: 45-46, t. 20-21. 1683	Adamboe	Sotulari	Catupinaca da Serra	Baak-roosen
4: 45-46, t. 20-21. 1683	Cadali-poea	Sotulari	Catupinaca da Serra	Baak-roosen
4: 47, t. 22. 1683	Katou-adamboe	Dava-Sotulari	Catupinaca-Brava	Wilde Baak-roosen
4: 49-50, t. 23.1683	Karin-kara	Tamagali	Naritha	Haan-ballen
4: 51-52, t. 24. 1683	Perin-kara	Gali-dousa	Azeitones do malavar	Wilde Olyven
4: 53-54, t. 25. 1683	Manyl-kara	Manil-gale	Fruita Manilha	Leo-bessen

4: 55-56, t. 26. 1683	Kara-angolam	Namidou	e Spinho Santo Bravo	Wilde Keyzers-Vreught
4: 57-58, t. 27. 1683	Theka	Sailo	Teka	Teka
4: 59-60, t. 28. 1683	Katou-theka	Davas Sailo	Teka-Brava	Wilde Teka
4: 61-62, t. 29. 1683	Tsjerou-theka	Douda Sailo	Teka Crespa	Netel Teka
4: 63-64, t. 30. 1683	Ben-theka	Kasilo	Theka-Macho	Wit Theka
4: 65-66, t. 31. 1683	Iripa	Iripou	Fruita Bolsa	Tas-noten
4: 67-68, t. 32. 1683	Kalesjam	Mourmourataram	Bainhero	Twee-lessen
4: 69-70, t. 33. 1683	Katou-kalesjam	Moemoe Parida Macho	Arvore da folha	*
4: 71-72, t. 34. 1683	Ben-kalesjam	Mourmoura	Arvor da folha Parida	Loof-appel
4: 73-74, t. 35. 168	Pongu	Helay	Masao-Spinosa	Boom-clissen
4: 73-74, t. 35. 1683	Inga	Helay	Masao-Spinosa	Boom-clissen
4: 75-76, t. 36. 1683	Kariil	Zalico	Satiro	*
4: 77-78, t. 37. 1683	Vidimaram	Quarenna	Fruita d'entrude	Cleef-pruymen
4: 79-80, t. 38. 1683	Ponna	Octi	Ponnaca	Geele gom-apples
4: 81, t. 39. 1683	Tsjerou-ponna	Cit-octi	Ponnaca Pequeno	Cleyne geele gom-appelen
4: 83-84, t. 40. 1683	Mallam-toddali	Chori-bori	Tarilla d'Cagoa	Narren-Pluegmen
4: 85-86, t. 41. 1683	Perin-toddali	Bori	Tarilla	Doorn-kerssen
4: 87-88, t. 42. 1683	Kadali	Naqueri	Fruita de Gralha	Craye-bessen
4: 89, (no plate). 1683	Ben-kadali	Bel-naqueri	Fruita da Gralha Branca	Witte Craye-bessan
4: 91, t. 43. 1683	Katou-kadali	Cit-naqueri	Fruita da Gralh do mato	Wilde Craye-bessan
4: 95-96, t. 44. 1683	Tsjerou-kadali	Dacouli-naqueri	Fruita da Gralha pequeno	Cleyne Craye-bessan
4: 95-96, t. 45. 1683	Oepata	Kandolu	Selgieira	Zoitboom
4: 97, t. 46. 1686	Wadouka	Adoulatti	Banhoeira	Smeer-appel
4: 99-100, t. 47-48. 1683	Rava-pou	Marotania	Fula Bordao	Nacht-bloemen
4: 101-102, t. 49. 1683	Ana-vinga	Talana	Bringiele Falsa d'Arbore	Granaat-prugmen
4: 103-104, t. 50. 1683	Courondi	Courdi	Asotas	Grieten
4: 105-106, t. 51. 1683	Bengiri	Girimaso	Nilica d'inforno	Nootjes crack myn niet
4: 107-108, t. 52. 1683	Aria-bepou	Nimbou	Amargosiera	Gal-bessen
4: 109-110, t. 53. 1683	Kari-bepou	Karabou	Amargosiera Macho	ron de Gal-bessen

4: 111-112, t. 54. 1683	Kari-vetti	Pada-daliqui	Querillas	Hartenhaver
4: 113, t. 55. 1683	Pee-vetti	Doudalaqui	Satilhas	Moorenkappen
4: 113, t. 55. 1683	Pevetti	Doudalaqui	Satilhas	Moorenkappen
4: 115-116, t. 56.1683	Noeli-tali	Bestram	Cordoeira	Vlashout
4: 115-116, t. 56.1683	Nuli-tali	Bestram	Cordoeira	Vlashout
4: 117-118, t. 57.1683	Poutaletsje	Barsoti	Hata	Waak-blad
4: 119, t. 58. 1683	Modagam	Corotha	Ammaco	Hondts-tongh
4: 121-122, t. 59.1683	Bella-modagam	Tacorotha	Ammaco Macho	Groot herts
4: 123-124, t. 60.1683	Tondi-teregam	Tondi Karavatti Raspa Macho	Folhas de	Groot Riff-blad
4: 125, t. 61. 168	Ramena-pou- maram	Brampou	Estrela d'alva	Morgen sterren

INDEX - 3
SCIENTIFIC NAMES WITH FAMILY NAME,
MALAYALAM NAME AND VOL. & FIG. NUMBER

Scientific Name	Family	Malayalam Name	Volume / Fig. / Year
<i>Aglaia elaeagnoidea</i> (Juss.) Benth.	MELIACEAE	Nialel	4: 37-38, t.16. 1683
<i>Aglaia elaeagnoidea</i> (Juss.) Benth.	MELIACEAE	Nyalel	4: 37-38, t.16. 1683
<i>Alangium salvifolium</i> (L.f.) Wangerin subsp. <i>salvifolium</i>	ALANGIACEAE	Angolam	4: 39-40, t. 17. 1683
<i>Alangium salvifolium</i> (L.f.) Wangerin subsp. sundanum (Miq.) Bloem.	ALANGIACEAE	Kara-angolam	4: 55-56, t. 26. 1683
<i>Antidesma menasu</i> (Tulasne) Müll.-Arg.	EUPHORBIACEAE	Noeli-tali	4: 115-116, t. 56.1683
<i>Antidesma menasu</i> (Tulasne) Müll.-Arg.	EUPHORBIACEAE	Nuli-tali	4: 115-116, t. 56.1683
<i>Atalantia monophylla</i> (L.) DC.	RUTACEAE	Mal-naregam	4: 27-28, t. 12. 1683
<i>Avicennia officinalis</i> L.	AVICENNIACEAE	Oepata	4: 95-96, t. 45. 1683
<i>Azadirachta indica</i> A. Juss.	MELIACEAE	Aria-bepou	4: 107-108, t. 52.1683
<i>Barringtonia acutangula</i> (L.) Gaertn.	LECYTHIDACEAE	Tsjeria-samstravadi	4: 15, t. 7.1683
<i>Barringtonia racemosa</i> (L.) Spreng.	LECYTHIDACEAE	Caipa-tsjambu	4: 11-13, t. 6.1683
<i>Barringtonia racemosa</i> (L.) Spreng.	LECYTHIDACEAE	Samstravadi	4: 11-13, t. 6.1683
<i>Callicarpa tomentosa</i> (L.) L.	VERBENACEAE	Tondi-teregam	4: 123-124, t. 60.1683
<i>Calophyllum calaba</i> L.	CLUSIACEAE	Tsjerou-ponna	4: 81, t. 39. 1683
<i>Calophyllum inophyllum</i> L.	CLUSIACEAE	Ponna	4: 79-80, t. 38. 1683
<i>Capparis moonii</i> Wight	CAPPARACEAE	Wadouka	4: 97, t. 46.1686
<i>Casearia ovata</i> (Lam.) Willd.	FLACOURTIACEAE	Ana-vinga	4: 101-102, t. 49.1683
<i>Catunaregam spinosa</i> (Thunb.) Tirvengadam	RUBIACEAE	Katou-naregam	4: 29-30, t. 13. 1683
<i>Clerodendrum serratum</i> (L.) Moon	VERBENACEAE	Tsjerou-theka	4: 61-62, t. 29.1683
<i>Cordia obliqua</i> Willd.	BORAGINACEAE	Vidimaram	4: 77-78, t. 37.1683
<i>Cynometra iripa</i> Kostel.	FABACEAE	Iripa	4: 65-66, t. 31. 1683
<i>Elaeocarpus serratus</i> L.	ELAEOCARPACEAE	Perin-kara	4: 51-52, t. 24. 1683

<i>Excoecaria indica</i> (Willd.) Müll.-Arg.	EUPHORBIACEAE	Bengiri	4: 105-106, t. 51.1683
<i>Fagraea ceilanica</i> Thunb.	LOGANIACEAE	Modagam	4: 119, t. 58. 1683
<i>Garuga pinnata</i> Roxb.	BURSERACEAE	Ben-kalesjam	4: 71-72, t. 34.1683
<i>Garuga pinnata</i> Roxb.	BURSERACEAE	Katou-kalesjam	4: 69- 70, t. 33. 1683
<i>Glochidion zeylanicum</i> (Gaertn.) A. Juss.	EUPHORBIACEAE	Pee-vetti	4: 113, t. 55. 1683
<i>Glochidion zeylanicum</i> (Gaertn.) A. Juss.	EUPHORBIACEAE	Pevetti	4: 113, t. 55. 1683
<i>Guettarda speciosa</i> L.	RUBIACEAE	Rava-pou	4: 99-100, t. 47-48.1683
<i>Hedyotis pruinosa</i> Wight & Am.	RUBIACEAE	Poutaletsje	4: 117-118, t. 57.1683
<i>Holigarna arnottiana</i> J. Hook.	ANACARDIACEAE	Cheru	4: 19-21, t. 9. 1683
<i>Holigarna arnottiana</i> J. Hook.	ANACARDIACEAE	Katou-tsjeroe	4: 19-21, t. 9. 1683
<i>Hopea ponga</i> (Dennst.) Mabb.	DIPTEROCARPACEAE	Inga	4: 73- 74, t. 35. 1683
<i>Hopea ponga</i> (Dennst.) Mabb.	DIPTEROCARPACEAE	Pongu	4: 73- 74, t. 35. 168
<i>Hymenodictyon orixense</i> (Roxb.) Mabb.	RUBIACEAE	Ben-theke	4: 63-64, t. 30. 1683
<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE	Adamboe	4: 45-46, t. 20-21. 1683
<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE	Cadali-poea	4: 45-46, t. 20-21. 1683
<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE	Katou-adamboe	4: 47, t. 22. 1683
<i>Lannea coromandelica</i> (Houtt.) Merr.	ANACARDIACEAE	Kalesjam	4: 67-68, t. 32. 1683
<i>Mangifera indica</i> L.	ANACARDIACEAE	Mau	4: 1-4, t. 1-2.1683
<i>Manilkara kauki</i> (L.) Dubard	SAPOTACEAE	Manyl-kara	4: 53-54, t. 25. 1683
<i>Melastoma malabathricum</i> L.	MELASTOMATAACEAE	Kadali	4: 87-88, t. 42. 1683
<i>Murraya koenigii</i> (L.) Spreng.	RUTACEAE	Kari-bepou	4: 109-110, t. 53.1683
<i>Myristica malabarica</i> Lam.	MYRISTICACEAE	Panam-palca	4: 9-10, t. 5. 1683
<i>Naringi crenulata</i> (Roxb.) Nicols.	RUTACEAE	Tsjerou-katou-naregam	4: 31.32, t.14. 1683
<i>Olea dioica</i> Roxb.	OLEACEAE	Kari-vetti	4: 111-112, t. 54. 1683
<i>Osbeckia aspera</i> (L.) El.	MELASTOMATAACEAE	Katou-kadali	4: 91, t. 43. 1683
<i>Osbeckia saxatilis</i> (Dennst.) Suresh	MELASTOMATAACEAE	Tsjerou-kadali	4: 95-96, t. 44. 1683
<i>Osbeckia</i> sp.	MELASTOMATAACEAE	Ben-kadali	4: 89, (no plate). 1683
<i>Psychotria dalzellii</i> J. Hook.	RUBIACEAE	Katou-theke	4: 59-60, t. 28. 1683
<i>Rumphia amboinensis</i> L.	(Insertae Sedis)	Tsjem-tani	4: 25-26, t. 11. 1683
<i>Salacia chinensis</i> L.	HIPPOCRATEACEAE	Courondi	4: 103-104, t. 50. 1683

<i>Santalum album</i> L.	SANTALACEAE	Malla-katou-tsjambou	4: 17-18, t. 8.1683
<i>Sapindus trifoliata</i> L.	SAPINDACEAE	Poerinsii	4: 43-44, t. 19. 1683
<i>Scaevola sericea</i> Vahl	GOODENIACEAE	Bella-modagam	4: 121-122, t. 59.1683
<i>Scleropyrum pentandrum</i> (Dennst.) Mabb.	SANTALACEAE	Idou-moulli	4: 41-42, t.18.1683
<i>Sterculia guttata</i> Roxb.	STERCULIACEAE	Ramena-pou-maram	4: 125, t. 61. 168
<i>Tectona grandis</i> L.f.	VERBENACEAE	Theka	4: 57-58, t. 27.1683
<i>Terminalia bellirica</i> (Gaertn.) Roxb.	COMBRETACEAE	Tani	4: 23-24, t. 10. 1683
<i>Terminalia catappa</i> L.	COMBRETACEAE	Adamaram	4: 5-7, t. 3-4. 1683
<i>Trema orientalis</i> (L.) Bl.	ULMACEAE	Mallam-toddali	4: 83-84, t. 40. 1683
<i>Vateria indica</i> L.	DIPTEROCARPACEAE	Paenoe	4: 33-34, t. 15. 1683
<i>Vita leucoxydon</i> L.f.	VERBENACEAE	Kariil	4: 75- 76, t. 36. 1683
<i>Xanthophyllum arnottianum</i> Wight	XANTHOPHYLLACEAE	Karin-kara	4: 49-50, t. 23.1683
<i>Zizyphus mauritiana</i> Lam.	RHAMNACEAE	Perin-toddali	4: 85-86, t. 41.1683

INDEX - 4
MALAYALAM NAMES WITH SCIENTIFIC NAME,
FAMILY NAME AND VOL. & FIG. NUMBER

Malayalam Name	Scientific Name	Family	Volume / Fig. / Year
Adamaram	<i>Terminalia catappa</i> L.	COMBRETACEAE	4: 5-7, t. 3-4. 1683
Adamboe	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE	4: 45-46, t. 20-21. 1683
Ana-vinga	<i>Casearia ovata</i> (Lam.) Willd.	FLACOURTIACEAE	4: 101-102, t. 49. 1683
Angolam	<i>Alangium salvifolium</i> (L.f.) Wangerin subsp. salvifolium	ALANGIACEAE	4: 39-40, t. 17. 1683
Aria-bepou	<i>Azadirachta indica</i> A. Juss.	MELIACEAE	4: 107-108, t. 52. 1683
Bella-modagam	<i>Scaevola sericea</i> Vahl	GOODENIACEAE	4: 121-122, t. 59. 1683
Bengiri	<i>Excoecaria indica</i> (Willd.) Müll.-Arg.	EUPHORBIACEAE	4: 105-106, t. 51. 1683
Ben-kadali	<i>Osbeckia</i> sp.	MELASTOMATACEAE	4: 89, (no plate). 1683
Ben-kalesjam	<i>Garuga pinnata</i> Roxb.	BURSERACEAE	4: 71-72, t. 34. 1683
Ben-theke	<i>Hymenodictyon orixense</i> (Roxb.) Mabb.	RUBIACEAE	4: 63-64, t. 30. 1683
Cadali-poea	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE	4: 45-46, t. 20-21. 1683
Caipa-tsjambu	<i>Barringtonia racemosa</i> (L.) Spreng.	LECYTHIDACEAE	4: 11-13, t. 6. 1683
Cheru	<i>Holigarna arnottiana</i> J. Hook.	ANACARDIACEAE	4: 19-21, t. 9. 1683
Courondi	<i>Salacia chinensis</i> L.	HIPPOCRATEACEAE	4: 103-104, t. 50. 1683
Idou-moulli	<i>Scleropyrum pentandrum</i> (Dennst.) Mabb.	SANTALACEAE	4: 41-42, t. 18. 1683
Inga	<i>Hopea ponga</i> (Dennst.) Mabb.	DIPTEROCARPACEAE	4: 73-74, t. 35. 1683
Iripa	<i>Cynometra iripa</i> Kostel.	FABACEAE	4: 65-66, t. 31. 1683
Kadali	<i>Melastoma malabathricum</i> L.	MELASTOMATACEAE	4: 87-88, t. 42. 1683
Kalesjam	<i>Lannea coromandelica</i> (Houtt.) Merr.	ANACARDIACEAE	4: 67-68, t. 32. 1683
Kara-angolam	<i>Alangium salvifolium</i> (L.f.) Wangerin subsp. sundanum (Miq.) Bloem	ALANGIACEAE	4: 55-56, t. 26. 1683
Kari-bepou	<i>Murraya koenigii</i> (L.) Spreng.	RUTACEAE	4: 109-110, t. 53. 1683

Kariil	<i>Vita leucoxydon</i> L.f.	VERBENACEAE	4: 75- 76, t. 36. 1683
Karin-kara	<i>Xanthophyllum amottianum</i> Wight	XANTHOPHYLLACEAE	4: 49-50, t. 23.1683
Kari-vetti	<i>Olea dioica</i> Roxb.	OLEACEAE	4: 111-112, t. 54. 1683
Katou-adamboe	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	LYTHRACEAE	4: 47, t. 22. 1683
Katou-kadali	<i>Osbeckia aspera</i> (L.) El.	MELASTOMACEAE	4: 91, t. 43. 1683
Katou-kalesjam	<i>Garuga pinnata</i> Roxb.	BURSERACEAE	4: 69- 70, t. 33. 1683
Katou-naregam	<i>Catunaregam spinosa</i> (Thunb.) Tirvengadam	RUBIACEAE	4: 29-30, t. 13. 1683
Katou-theka	<i>Psychotria dalzellii</i> J. Hook.	RUBIACEAE	4: 59-60, t. 28. 1683
Katou-tsjerroe	<i>Holigarna amottiana</i> J. Hook.	ANACARDIACEAE	4: 19-21, t. 9. 1683
Malla-katou-tsymbou	<i>Santalum album</i> L.	SANTALACEAE	4: 17-18, t. 8.1683
Mallam-toddali	<i>Trema orientalis</i> (L.) Bl.	ULMACEAE	4: 83-84, t. 40. 1683
Mal-naregam	<i>Atalantia monophylla</i> (L.) DC.	RUTACEAE	4: 27-28, t. 12. 1683
Manyl-kara	<i>Manilkara kauki</i> (L.) Dubard	SAPOTACEAE	4: 53-54, t. 25. 1683
Mau	<i>Mangifera indica</i> L.	ANACARDIACEAE	4: 1-4, t. 1-2.1683
Modagam	<i>Fagraea ceilanica</i> Thunb.	LOGANIACEAE	4: 119, t. 58. 1683
Nialel	<i>Aglaia elaeagnoidea</i> (Juss.) Benth.	MELIACEAE	4: 37-38, t.16. 1683
Noeli-tali	<i>Antidesma menasu</i> (Tulasne) Müll.-Arg.	EUPHORBIACEAE	4: 115-116, t. 56.1683
Nuli-tali	<i>Antidesma menasu</i> (Tulasne) Müll.-Arg.	EUPHORBIACEAE	4: 115-116, t. 56.1683
Nyalel	<i>Aglaia elaeagnoidea</i> (Juss.) Benth.	MELIACEAE	4: 37-38, t.16. 1683
Oepata	<i>Avicennia officinalis</i> L.	AVICENNIACEAE	4: 95-96, t. 45. 1683
Paenoe	<i>Vateria indica</i> L.	DIPTEROCARPACEAE	4: 33-34, t. 15. 1683
Panam-palca	<i>Myristica malabarica</i> Lam.	MYRISTICACEAE	4: 9-10, t. 5. 1683
Pee-vetti	<i>Glochidion zeylanicum</i> (Gaertn.) A. Juss.	EUPHORBIACEAE	4: 113, t. 55. 1683
Perin-kara	<i>Elaeocarpus serratus</i> L.	ELAEOCARPACEAE	4: 51-52, t. 24. 1683
Perin-toddali	<i>Zizyphus mauritiana</i> Lam.	RHAMNACEAE	4: 85-86, t. 41.1683
Pevetti	<i>Glochidion zeylanicum</i> (Gaertn.) A. Juss.	EUPHORBIACEAE	4: 113, t. 55. 1683
Poerinsii	<i>Sapindus trifoliata</i> L.	SAPINDACEAE	4: 43-44, t. 19. 1683
Pongu	<i>Hopea ponga</i> (Dennst.) Mabb.	DIPTEROCARPACEAE	4: 73- 74, t. 35. 168
Ponna	<i>Calophyllum inophyllum</i> L.	CLUSIACEAE	4: 79-80, t. 38. 1683
Poutaletsje	<i>Hedyotis pruinosa</i> Wight & Am.	RUBIACEAE	4: 117-118, t. 57.1683

Ramena-pou-maram	<i>Sterculia guttata</i> Roxb.	STERCULIACEAE	4: 125, t. 61. 168
Rava-pou	<i>Guettarda speciosa</i> L.	RUBIACEAE	4: 99-100, t. 47-48.1683
Samstravadi	<i>Barringtonia racemosa</i> (L.) Spreng.	LECYTHIDACEAE	4: 11-13, t. 6.1683
Tani	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	COMBRETACEAE	4: 23-24, t. 10. 1683
Theka	<i>Tectona grandis</i> L.f.	VERBENACEAE	4: 57-58, t. 27.1683
Tondi-teregam	<i>Callicarpa tomentosa</i> (L.) L.	VERBENACEAE	4: 123-124, t. 60.1683
Tsjem-tani	<i>Rumphia amboinensis</i> L.	(Insertae Sedis)	4: 25-26, t. 11. 1683
Tsjeria-samstravadi	<i>Barringtonia acutangula</i> (L.) Gaertn.	LECYTHIDACEAE	4: 15, t. 7.1683
Tsjerou-kadali	<i>Osbeckia saxatilis</i> (Dennst.) Suresh	MELASTOMATAACEAE	4: 95-96, t. 44. 1683
Tsjerou-katou-naregam	<i>Naringi crenulata</i> (Roxb.) Nicols.	RUTACEAE	4: 31.32, t.14. 1683
Tsjerou-ponna	<i>Calophyllum calaba</i> L.	CLUSIACEAE	4: 81, t. 39. 1683
Tsjerou-theka	<i>Clerodendrum serratum</i> (L.) Moon	VERBENACEAE	4: 61-62, t. 29.1683
Vidimaram	<i>Cordia obliqua</i> Willd.	BORAGINACEAE	4: 77-78, t. 37.1683
Wadouka	<i>Capparis moonii</i> Wight	CAPPARACEAE	4: 97, t. 46.1686

INDEX - 5
FAMILY NAMES WITH SCIENTIFIC NAME,
MALAYALAM NAME AND VOL. & FIG. NUMBER

Family	Scientific Name	Malayalam Name	Volume / Fig. / Year
(Insertae Sedis)	<i>Rumphia amboinensis</i> L.	Tsjem-tani	4: 25-26, t. 11. 1683
ALANGIACEAE	<i>Alangium salvifolium</i> (L.f.) Wangerin subsp. <i>salvifolium</i>	Angolam	4: 39-40, t. 17. 1683
ALANGIACEAE	<i>Alangium salvifolium</i> (L.f.) Wangerin subsp. <i>sundanum</i> (Miq.) Bloem.	Kara-angolam	4: 55-56, t. 26. 1683
ANACARDIACEAE	<i>Holigarna arnottiana</i> J. Hook.	Cheru	4: 19-21, t. 9. 1683
ANACARDIACEAE	<i>Holigarna arnottiana</i> J. Hook.	Katou-tsjeroe	4: 19-21, t. 9. 1683
ANACARDIACEAE	<i>Lannea coromandelica</i> (Houtt.) Merr.	Kalesjam	4: 67-68, t. 32. 1683
ANACARDIACEAE	<i>Mangifera indica</i> L.	Mau	4: 1-4, t. 1-2. 1683
AVICENNIACEAE	<i>Avicennia officinalis</i> L.	Oepata	4: 95-96, t. 45. 1683
BORAGINACEAE	<i>Cordia obliqua</i> Willd.	Vidimaram	4: 77-78, t. 37. 1683
BURSERACEAE	<i>Garuga pinnata</i> Roxb.	Ben-kalesjam	4: 71-72, t. 34. 1683
BURSERACEAE	<i>Garuga pinnata</i> Roxb.	Katou-kalesjam	4: 69-70, t. 33. 1683
CAPPARACEAE	<i>Capparis moonii</i> Wight	Wadouka	4: 97, t. 46. 1686
CLUSIACEAE	<i>Calophyllum calaba</i> L.	Tsjerou-ponna	4: 81, t. 39. 1683
CLUSIACEAE	<i>Calophyllum inophyllum</i> L.	Ponna	4: 79-80, t. 38. 1683
COMBRETACEAE	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Tani	4: 23-24, t. 10. 1683
COMBRETACEAE	<i>Terminalia catappa</i> L.	Adamaram	4: 5-7, t. 3-4. 1683
DIPTEROCARPACEAE	<i>Hopea ponga</i> (Dennst.) Mabb.	Inga	4: 73-74, t. 35. 1683
DIPTEROCARPACEAE	<i>Hopea ponga</i> (Dennst.) Mabb.	Pongu	4: 73-74, t. 35. 168
DIPTEROCARPACEAE	<i>Vateria indica</i> L.	Paenoe	4: 33-34, t. 15. 1683
ELAEOCARPACEAE	<i>Elaeocarpus serratus</i> L.	Perin-kara	4: 51-52, t. 24. 1683
EUPHORBIACEAE	<i>Antidesma menasu</i> (Tulasne) Müll.-Arg.	Noeli-tali	4: 115-116, t. 56. 1683
EUPHORBIACEAE	<i>Antidesma menasu</i> (Tulasne) Müll.-Arg.	Nuli-tali	4: 115-116, t. 56. 1683
EUPHORBIACEAE	<i>Excoecaria indica</i> (Willd.) Müll.-Arg.	Bengiri	4: 105-106, t. 51. 1683

EUPHORBIACEAE	<i>Glochidion zeylanicum</i> (Gaertn.) A. Juss.	Pee-vetti	4: 113, t. 55. 1683
EUPHORBIACEAE	<i>Glochidion zeylanicum</i> (Gaertn.) A. Juss.	Pevetti	4: 113, t. 55. 1683
FABACEAE	<i>Cynometra iripa</i> Kostel.	Iripa	4: 65-66, t. 31. 1683
FLACOURTIACEAE	<i>Casearia ovata</i> (Lam.) Willd.	Ana-vinga	4: 101-102, t. 49.1683
GOODENIACEAE	<i>Scaevola sericea</i> Vahl	Bella-modagam	4: 121-122, t. 59.1683
HIPPOCRATEACEAE	<i>Salacia chinensis</i> L.	Courondi	4: 103-104, t. 50. 1683
LECYTHIDACEAE	<i>Barringtonia acutangula</i> (L.) Gaertn.	Tsjeria-samstravadi	4: 15, t. 7.1683
LECYTHIDACEAE	<i>Barringtonia racemosa</i> (L.) Spreng.	Caipa-tsjambu	4: 11-13, t. 6.1683
LECYTHIDACEAE	<i>Barringtonia racemosa</i> (L.) Spreng.	Samstravadi	4: 11-13, t. 6.1683
LOGANIACEAE	<i>Fagraea ceilanica</i> Thunb.	Modagam	4: 119, t. 58. 1683
LYTHRACEAE	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	Adamboe	4: 45-46, t. 20-21. 1683
LYTHRACEAE	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	Cadali-poea	4: 45-46, t. 20-21. 1683
LYTHRACEAE	<i>Lagerstroemia hirsuta</i> (Lam.) Willd.	Katou-adamboe	4: 47, t. 22. 1683
MELASTOMATAACEAE	<i>Melastoma malabathricum</i> L.	Kadali	4: 87-88, t. 42. 1683
MELASTOMATAACEAE	<i>Osbeckia aspera</i> (L.) El.	Katou-kadali	4: 91, t. 43. 1683
MELASTOMATAACEAE	<i>Osbeckia saxatilis</i> (Dennst.) Suresh	Tsjerou-kadali	4: 95-96, t. 44. 1683
MELASTOMATAACEAE	<i>Osbeckia</i> sp.	Ben-kadali	4: 89, (no plate). 1683
MELIACEAE	<i>Aglaia elaeagnoides</i> (Juss.) Benth.	Nialel	4: 37-38, t.16. 1683
MELIACEAE	<i>Aglaia elaeagnoides</i> (Juss.) Benth.	Nyalel	4: 37-38, t.16. 1683
MELIACEAE	<i>Azadirachta indica</i> A. Juss.	Aria-bepou	4: 107-108, t. 52.1683
MYRISTICACEAE	<i>Myristica malabarica</i> Lam.	Panam-palca	4: 9-10, t. 5. 1683
OLEACEAE	<i>Olea dioica</i> Roxb.	Kari-vetti	4: 111-112, t. 54. 1683
RHAMNACEAE	<i>Zizyphus mauritiana</i> Lam.	Perin-toddali	4: 85-86, t. 41.1683
RUBIACEAE	<i>Catunaregam spinosa</i> (Thunb.) Tirvengadam	Katou-naregam	4: 29-30, t. 13. 1683
RUBIACEAE	<i>Guettarda speciosa</i> L.	Rava-pou	4: 99-100, t. 47-48.1683
RUBIACEAE	<i>Hedyotis pruinosa</i> Wight & Am.	Poutaletsje	4: 117-118, t. 57.1683

RUBIACEAE	<i>Hymenodictyon orixense</i> (Roxb.) Mabb.	Ben-theke	4: 63-64, t. 30. 1683
RUBIACEAE	<i>Psychotria dalzellii</i> J. Hook.	Katou-theke	4: 59-60, t. 28. 1683
RUTACEAE	<i>Atalantia monophylla</i> (L.) DC.	Mal-naregam	4: 27-28, t. 12. 1683
RUTACEAE	<i>Murraya koenigii</i> (L.) Spreng.	Kari-bepou	4: 109-110, t. 53. 1683
RUTACEAE	<i>Naringi crenulata</i> (Roxb.) Nicols.	Tsjerou-katou-naregam	4: 31-32, t. 14. 1683
SANTALACEAE	<i>Santalum album</i> L.	Malla-katou-tsjambou	4: 17-18, t. 8. 1683
SANTALACEAE	<i>Scleropyrum pentandrum</i> (Dennst.) Mabb.	Idou-moulli	4: 41-42, t. 18. 1683
SAPINDACEAE	<i>Sapindus trifoliata</i> L.	Poerinsii	4: 43-44, t. 19. 1683
SAPOTACEAE	<i>Manilkara kauki</i> (L.) Dubard	Manyl-kara	4: 53-54, t. 25. 1683
STERCULIACEAE	<i>Sterculia guttata</i> Roxb.	Ramena-pou-maram	4: 125, t. 61. 168
ULMACEAE	<i>Trema orientalis</i> (L.) Bl.	Mallam-toddali	4: 83-84, t. 40. 1683
VERBENACEAE	<i>Callicarpa tomentosa</i> (L.) L.	Tondi-teregam	4: 123-124, t. 60. 1683
VERBENACEAE	<i>Clerodendrum serratum</i> (L.) Moon	Tsjerou-theke	4: 61-62, t. 29. 1683
VERBENACEAE	<i>Tectona grandis</i> L.f.	Theke	4: 57-58, t. 27. 1683
VERBENACEAE	<i>Vita leucoxydon</i> L.f.	Kariil	4: 75-76, t. 36. 1683
XANTHOPHYLLACEAE	<i>Xanthophyllum</i> arnottianum Wight	Karin-kara	4: 49-50, t. 23. 1683

INDEX - 6
KONKANI NAMES WITH MALAYALAM, PORTUGUESE,
DUTCH/BELGIAN NAMES AND VOL. & FIG. NUMBER

Konkani Name	Malayalam Name	Portuguese Name	Dutch/Belgian Name	Volume/ Fig. / Year
Adoulatti	Wadouka	Banhoeira	Smeer-appel	4: 97, t. 46.1686
Ambadekei	Panam-palca falso	Nozde moluco	Wilde Mannekes Nolle-boon	4: 9-10, t. 5. 1683
Ambo	Mau	Manga	Manges	4: 1-4, t. 1-2.1683
Angolam	Angolam	Espinho Sancto	Keyser vreugde	4: 39-40, t. 17. 1683
Barsoti	Poutaletsje	Hata	Waak-blad	4: 117-118, t. 57.1683
Bel-naqueri	Ben-kadali	Fruita da Gralha Branca	Witte Crayebessen	4: 89, (no plate). 1683
Bestram	Noeli-tali	Cordoeira	Vlashout	4: 115-116, t. 56.1683
Bestram	Nuli-tali	Cordoeira	Vlashout	4: 115-116, t. 56.1683
Bori	Perin-toddali	Tarilla	Doorn-kerssen	4: 85-86, t. 41.1683
Brampou	Ramena-pou-maram	Estrela d'alva	Morgen sterren	4: 125, t. 61. 168
Chori-bori	Mallam-toddali	Tarilla d'Cagoa	Narren-Pluegmen	4: 83-84, t. 40. 1683
Cit-naqueri	Katou-kadali	Fruita da Gralh do mato	Wilde Crayebessen	4: 91, t. 43. 1683
Cit-octi	Tsjerou-ponna	Ponnaca Pequeno appelen	Cleyne geele gom-	4: 81, t. 39. 1683
Citt-rana-nimba	Tsjerou-katou-naregam	Limonis da folha	Claver appelkens	4: 31.32, t.14. 1683
Coduvo-nani	Katou-naregam	Lima Coroado	Wilde limonene	4: 29-30, t. 13. 1683
Corotha	Modagam	Ammaco	Hondts-tongh	4: 119, t. 58. 1683
Courdi	Courondi	Asotas	Grieten	4: 103-104, t. 50. 1683
Dacouli-naqueri	Tsjerou-kadali	Fruita da Gralha pequeno	Cleyne Crayebessen	4: 95-96, t. 44. 1683
Davas Sailo	Katou-theka	Teka-Brava	Wilde Teka	4: 59-60, t. 28. 1683
Dava-Sotulari	Katou-adamboe	Catupinaca-Brava	Wilde Baak-roosen	4: 47, t. 22. 1683
Doepoe	Paenoe	Arvore Ensenza	Hars-boom	4: 33-34, t. 15. 1683
Douda Sailo	Tsjerou-theka	Teka Crespa	Netel Teka	4: 61-62, t. 29.1683
Doudalaqui	Pee-vetti	Satilhas	Moorenkappen	4: 113, t. 55. 1683
Doudalaqui	Pevetti	Satilhas	Moorenkappen	4: 113, t. 55. 1683
Elasticanto	Idou-moulli	Periera dos diabos	Dulle-boom	4: 41-42, t.18.1683

Gali-dousa	Perin-kara	Azeitones do malavar	Wilde Olyven	4: 51-52, t. 24. 1683
Girimaso	Bengiri	Nilica d'inforno	Nootjes crack myn niet	4: 105-106, t. 51.1683
Gottinga	Tani	Biborala	Heylpeeren	4: 23-24, t. 10. 1683
Gove-sada-pali	Tsjeria-samstravadi	Rosario brara	Beedelsnoeren	4: 15, t. 7.1683
Helay	Inga	Masao-Spinosa	Boom-clissen	4: 73- 74, t. 35. 1683
Helay	Pongu	Masao-Spinosa	Boom-clissen	4: 73- 74, t. 35. 168
Iripou	Iripa	Fruita Bolsa	Tas-noten	4: 65-66, t. 31. 1683
Kandolu	Oepata	Selgieira	Zoitboom	4: 95-96, t. 45. 1683
Karabou	Kari-bepou	Amargosiera Macho	ron de Gal-bessen	4: 109-110, t. 53.1683
Kasilo	Ben-theke	Theka-Macho	Wit Theka	4: 63-64, t. 30. 1683
Lassa	Nialel	Maquina	Werlingen	4: 37-38, t.16. 1683
Lassa	Nyalel	Maquina	Werlingen	4: 37-38, t.16. 1683
Malambetti	Malla-katou-tsjambou	Jambos dos Bugios	Swyne-Jambosen	4: 17-18, t. 8.1683
Manil-gale	Manyl-kara	Fruita Manilha	Leo-bessen	4: 53-54, t. 25. 1683
Marotania	Rava-pou	Fula Bordao	Nacht-bloemen	4: 99-100, t. 47-8.1683
Moemoe	Katou-kalesjam	Arvore da folha Parida Macho	*	4: 69- 70, t. 33. 1683
Mourmoura	Ben-kalesjam	Arvor da folha Parida	Loof-appel	4: 71-72, t. 34.1683
Mourmourataram	Kalesjam	Bainhero	Twee-lessen	4: 67-68, t. 32. 1683
Namidou	Kara-angolam	e Spinho Santo Bravo	Wilde Keysers-Vreught	4: 55-56, t. 26. 1683
Nani	Mal-naregam	Limaodo Mato	Wilde Citroenen	4: 27-28, t. 12. 1683
Naqueri	Kadali	Fruita de Gralha	Craye-bessen	4: 87-88, t. 42. 1683
Nimbou	Aria-bepou	Amargosiera	Gal-bessen	4: 107-108, t. 52.1683
Octi	Ponna	Ponnaca	Geele gom-apples	4: 79-80, t. 38. 1683
Ourinti	Poerinsii	Sabao dos Canarins	Seepnooten	4: 43-44, t. 19. 1683
Pada-daliqui	Kari-vetti	Querillas	Hartenhaver	4: 111-112, t. 54. 1683
Quarenna	Vidimaram	Fruita d'entrude	Cleef-pruymen	4: 77-78, t. 37.1683
Rana-bibo	Cheru	Uvas d'inferno	Dulle pruymen	4: 19-21, t. 9. 1683
Rana-bibo	Katou-tsjeroe	Uvas d'inferno	Dulle pruymen	4: 19-21, t. 9. 1683
Sada-pali	Caipa-tsjambu	Rosario de Jambu	Wilde Jambosen	4: 11-13, t. 6.1683
Sada-pali	Samstravadi	Rosario de Jambu	Wilde Jambosen	4: 11-13, t. 6.1683

		Teka	Teka	4: 57-58, t. 27.1683
Sailo	Theka	Pinha	Katappes	4: 5-7, t. 3-4. 1683
Sibe	Adamaram	Catupinaca da Serra	Baak-roosen	4: 45-46, t. 20-21. 1683
Sotulari	Adamboe	Catupinaca da Serra	Baak-roosen	4: 45-46, t. 20-21. 1683
Sotulari	Cadali-poea			
		Ammaco Macho	Groot herts	4: 121-122, t. 59.1683
Tacorotha	Bella-modagam	Bringiele Falsa	Granaat-prugmen	4: 101-102, t. 49.1683
Talana	Ana-vinga	d'Arbore		
		Naritha	Haan-ballen	4: 49-50, t. 23.1683
Tamagali	Karin-kara	*	*	4: 25-26, t. 11. 1683
Tanis-morij	Tsjem-tani			
Tondi Karavatti	Tondi-teregam	Folhas de Raspa Macho	Groot Riff-blad	4: 123-124, t. 60.1683
		Satiro	*	4: 75- 76, t. 36. 1683
Zalico	Kariil			

INDEX - 7
PORTUGUESE NAMES WITH DUTCH / BELGIAN,
KONKANI, MALAYALAM NAMES
AND VOL. & FIG. NUMBER

Portuguese Name	Dutch/Belg. Name	Konkani Name	Malayalam Name	Volume/ Fig. / Year
*	*	Tanis-morij	Tsjem-tani	4: 25-26, t. 11. 1683
Amargosiera	Gal-bessen	Nimbou	Aria-bepou	4: 107-108, t. 52.1683
Amargosiera Macho	ron de Gal-bessen	Karabou	Kari-bepou	4: 109-110, t. 53.1683
Ammaco	Hondts-tongh	Corotha	Modagam	4: 119, t. 58. 1683
Ammaco Macho	Groot herts	Tacorotha	Bella-modagam	4: 121-122, t. 59.1683
Arvor da folha Parida	Loof-appel	Mourmoura	Ben-kalesjam	4: 71-72, t. 34.1683
Arvore da folha Parida Macho	*	Moemoe	Katou-kalesjam	4: 69- 70, t. 33. 1683
Arvore Ensenza	Hars-boom	Doepoe	Paenoe	4: 33-34, t. 15. 1683
Asotas	Grieten	Courdi	Courondi	4: 103-104, t. 50. 1683
Azeitones do malavar	Wilde Olyven	Gali-dousa	Perin-kara	4: 51-52, t. 24. 1683
Bainhero	Twee-lessen	Mourmourataram	Kalesjam	4: 67-68, t. 32. 1683
Banhoeira	Smeer-appel	Adoulatti	Wadouka	4: 97, t. 46.1686
Biborala	Heylpeeren	Gottinga	Tani	4: 23-24, t. 10. 1683
Bringiele	Granaat-	Talana	Ana-vinga	4: 101-102, t. 49.1683
Falsa d'Arbore Catupinaca da	prugmen			
Serra	Baak-roosen	Sotulari	Cadali-poea	4: 45-46, t. 20-21. 1683
Catupinaca da Serra	Baak-roosen	Sotulari	Adamboe	4: 45-46, t. 20-21. 1683
Catupinaca-Brava	Wilde Baak-roosen	Dava-Sotulari	Katou-adamboe	4: 47, t. 22. 1683
Cordoeira	Vlashout	Bestram	Noeli-tali	4: 115-116, t. 56.1683
Cordoeira	Vlashout	Bestram	Nuli-tali	4: 115-116, t. 56.1683
e Spinho Santo Bravo	Wilde Keyzers-Vreught	Namidou	Kara-angolam	4: 55-56, t. 26. 1683
Espinho Sancto	Keyser vreugde	Angolam	Angolam	4: 39-40, t. 17. 1683
Estrela d'alva	Morgen sterren	Brampou	Ramena-pou-maram	4: 125, t. 61. 168
Folhas de Raspa Macho	Groot Riff-blad	Tondi Karavatti	Tondi-teregam	4: 123-124, t. 60.1683

Fruita Bolsa	Tas-noten	Iripou	Iripa	4: 65-66, t. 31. 1683
Fruita d'entrude	Cleef-pruymen	Quarenna	Vidimaram	4: 77-78, t. 37.1683
Fruita da Gralh do mato	Wilde Craye-bessen	Cit-naqueri	Katou-kadali	4: 91, t. 43. 1683
Fruita da Gralha Branca	Witte Craye-bessen	Bel-naqueri	Ben-kadali	4: 89, (no plate). 1683
Fruita da Gralha pequeno	Cleyne Craye-bessen	Dacouli-naqueri	Tsjerou-kadali	4: 95-96, t. 44. 1683
Fruita de Gralha	Craye-bessen	Naqueri	Kadali	4: 87-88, t. 42. 1683
Fruita Manilha	Leo-bessen	Manil-gale	Manyl-kara	4: 53-54, t. 25. 1683
Fula Bordao	Nacht-bloemen	Marotania	Rava-pou	4: 99-100, t. 47-48.1683
Hata	Waak-blad	Barsoti	Poutaletsje	4: 117-118, t. 57.1683
Jambos dos Bugios	Swyne-Jambosen	Malambetti	Malla-katou-tsjambou	4: 17-18, t. 8.1683
Limaο Coroadο	Wilde limonene	Coduvo-nani	Katou-naregam	4: 29-30, t. 13. 1683
Limaodo Mato	Wilde Citroenen	Nani	Mal-naregam	4: 27-28, t. 12. 1683
Limonis da folha	Claver appelkens	Citt-rana-nimba	Tsjerou-katou-naregam	4: 31.32, t.14. 1683
Manga	Manges	Ambo	Mau	4: 1-4, t. 1-2.1683
Maquinha	Werlingen	Lassa	Nialel	4: 37-38, t.16. 1683
Maquinha	Werlingen	Lassa	Nyalel	4: 37-38, t.16. 1683
Masao-Spinosa	Boom-clissen	Helay	Pongu	4: 73- 74, t. 35. 168
Masao-Spinosa	Boom-clissen	Helay	Inga	4: 73- 74, t. 35. 1683
Naritha	Haan-ballen	Tamagali	Karin-kara	4: 49-50, t. 23.1683
Nilica d'inforno	Nootjes crack myn niet	Girimaso	Bengiri	4: 105-106, t. 51.1683
Nozde moluco falso	Wilde Mannekes Nolle-boon	Ambadeki	Panam-palca	4: 9-10, t. 5. 1683
Periera dos diabos	Dulle-boom	Elaticanto	Idou-moulli	4: 41-42, t.18.1683
Pinha	Katappes	Sibe	Adamaram	4: 5-7, t. 3-4. 1683
Ponnaca	Geele gom-apples	Octi	Ponna	4: 79-80, t. 38. 1683
Ponnaca Pequeno	Cleyne geele gom-appelen	Cit-octi	Tsjerou-ponna	4: 81, t. 39. 1683
Querillas	Hartenhaver	Pada-daliqui	Kari-vetti	4: 111-112, t. 54. 1683
Rosario brara	Beedelsnoeren	Gove-sada-pali	Tsjeria-samstravadi	4: 15, t. 7.1683
Rosario de Jambu	Wilde Jambosen	Sada-pali	Caipa-tsjambu	4: 11-13, t. 6.1683
Rosario de Jambu	Wilde Jambosen	Sada-pali	Samstravadi	4: 11-13, t. 6.1683

Sabao dos Canarins	Seepnooten	Ourinti	Poerinsii	4: 43-44, t. 19. 1683
Satilhas	Moorenkappen	Doudalaqui	Pee-vetti	4: 113, t. 55. 1683
Satilhas	Moorenkappen	Doudalaqui	Pevetti	4: 113, t. 55. 1683
Satiro	*	Zalico	Kariil	4: 75- 76, t. 36. 1683
Selgieira	Zoitboom	Kandolu	Oepata	4: 95-96, t. 45. 1683
Tarilla	Doorn-kerssen	Bori	Perin-toddali	4: 85-86, t. 41.1683
Tarilla d'Cagoa	Narren-Pluegmen	Chori-bori	Mallam-toddali	4: 83-84, t. 40. 1683
Teka	Teka	Sailo	Theka	4: 57-58, t. 27.1683
Teka Crespa	Netel Teka	Douda Sailo	Tsjerou-theka	4: 61-62, t. 29.1683
Teka-Brava	Wilde Teka	Davas Sailo	Katou-theka	4: 59-60, t. 28. 1683
Theka-Macho	Wit Theka	Kasilo	Ben-theka	4: 63-64, t. 30. 1683
Uvas d'inferno	Dulle pruymen	Rana-bibo	Cheru	4: 19-21, t. 9. 1683
Uvas d'inferno	Dulle pruymen	Rana-bibo	Katou-tsjeroe	4: 19-21, t. 9. 1683

INDEX - 8
DUTCH / BELGIAN NAMES WITH PORTUGUESE,
KONKANI, MALAYALAM NAMES
AND VOL. & FIG. NUMBER

Dutch/Belgian Name	Portuguese Name	Konkani Name	Malayalam Name	Volume/ Fig. / Year
*	*	Tanis-morij	Tsjem-tani	4: 25-26, t. 11. 1683
*	Arvore da folha Parida Macho	Moemoe	Katou-kalesjam	4: 69- 70, t. 33. 1683
*	Satiro	Zalico	Kariil	4: 75- 76, t. 36. 1683
Baak-roosen	Catupinaca da			4: 45-46, t. 20-21. 1683
Serra	Sotulari	Cadali-poea		4: 45-46, t. 20-21. 1683
Baak-roosen	Catupinaca da Serra	Sotulari	Adamboe	4: 15, t. 7.1683
Beedelsnoeren	Rosario brara	Gove-sada-pali	Tsjeria- samstravadi	4: 73- 74, t. 35. 1683
Boom-clissen	Masao-Spinosa	Helay	Inga	4: 73- 74, t. 35. 168
Boom-clissen	Masao-Spinosa	Helay	Pongu	4: 31.32, t.14. 1683
Claver appelkens	Limonis da folha	Citt-rana- nimba	Tsjerou-katou- naregam	4: 77-78, t. 37.1683
Cleef-pruymen	Fruita d'entrude	Quarenna	Vidimaram	4: 95-96, t. 44. 1683
Cleyne Craye- bessen	Fruita da Gralha pequeno	Dacouli- naqueri	Tsjerou-kadali	4: 81, t. 39. 1683
Cleyne geele gom- appelen	Ponnaca Pequeno	Cit-octi	Tsjerou-ponna	4: 87-88, t. 42. 1683
Craye-bessen	Fruita de Gralha	Naqueri	Kadali	4: 85-86, t. 41.1683
Doorn-kerssen	Tarilla	Bori	Perin-toddali	4: 19-21, t. 9. 1683
Dulle pruymen	Uvas d'inferno	Rana-bibo	Cheru	4: 19-21, t. 9. 1683
Dulle pruymen	Uvas d'inferno	Rana-bibo	Katou-tsjeroe	4: 41-42, t.18.1683
Dulle-boom	Periera dos diabos	Elasticanto	Idou-moulli	4: 107-108, t. 52.1683
Gal-bessen	Amargosiera	Nimbou	Aria-bepou	4: 79-80, t. 38. 1683
Geele gom-apples	Ponnaca	Octi	Ponna	4: 101-102, t. 49.1683
Granaat-prugmen	Bringiele Falsa d'Arbore	Talana	Ana-vinga	4: 103-104, t. 50. 1683
Grieten	Asotas	Courdi	Courondi	4: 121-122, t. 59.1683
Groot herts	Ammaco Macho	Tacorotha	Bella-modagam	

Groot Riff-blad	Folhas de Raspa Macho	Tondi Karavatti	Tondi-teregam	4: 123-124, t. 60.1683
Haan-ballen	Naritha	Tamagali	Karin-kara	4: 49-50, t. 23.1683
Hars-boom	Arvore Ensenza	Doepoe	Paenoe	4: 33-34, t. 15. 1683
Hartenhaver	Querillas	Pada-daliqui	Kari-vetti	4: 111-112, t. 54. 1683
Heylpeeren	Biborala	Gottinga	Tani	4: 23-24, t. 10. 1683
Hondts-tongh	Ammaco	Corotha	Modagam	4: 119, t. 58. 1683
Katappes	Pinha	Sibe	Adamaram	4: 5-7, t. 3-4. 1683
Keyser vreugde	Espinho Sancto	Angolam	Angolam	4: 39-40, t. 17. 1683
Leo-bessen	Fruita Manilha	Manil-gale	Manyl-kara	4: 53-54, t. 25. 1683
Loof-appel	Arvor da folha Parida	Mourmoura	Ben-kalesjam	4: 71-72, t. 34.1683
Manges	Manga	Ambo	Mau	4: 1-4, t. 1-2.1683
Moorenkappen	Satilhas	Doudalaqui	Pee-vetti	4: 113, t. 55. 1683
Moorenkappen	Satilhas	Doudalaqui	Pevetti	4: 113, t. 55. 1683
Morgen sterren	Estrela d'alva	Brampou	Ramena-pou-maram	4: 125, t. 61. 168
Nacht-bloemen	Fula Bordao	Marotania	Rava-pou	4: 99-100, t. 47-48.1683
Narren-Pluegmen	Tarilla d'Cagoa	Chori-bori	Mallam-toddali	4: 83-84, t. 40. 1683
Netel Teka	Teka Crespa	Douda Sailo	Tsjerou-theka	4: 61-62, t. 29.1683
Nootjes crack myn niet	Nilica d'inforno	Girimaso	Bengiri	4: 105-106, t. 51.1683
ron de Gal-bessen	Amargosiera Macho	Karabou	Kari-bepou	4: 109-110, t. 53.1683
Seepnooten	Sabao dos Canarins	Ourinti	Poerinsii	4: 43-44, t. 19. 1683
Smeer-appel	Banhoeira	Adoulatti	Wadouka	4: 97, t. 46.1686
Swyne-Jambosen	Jambos dos Bugios	Malambetti	Malla-katou-tsjambou	4: 17-18, t. 8.1683
Tas-noten	Fruita Bolsa	Iripou	Iripa	4: 65-66, t. 31. 1683
Teka	Teka	Sailo	Theka	4: 57-58, t. 27.1683
Twee-lessen	Bainhero	Mourmourataram	Kalesjam	4: 67-68, t. 32. 1683
Vlashout	Cordoeira	Bestram	Noeli-tali	4: 115-116, t. 56.1683
Vlashout	Cordoeira	Bestram	Nuli-tali	4: 115-116, t. 56.1683
Waak-blad	Hata	Barsoti	Poutaletsje	4: 117-118, t. 57.1683
Werlingen	Maquinha	Lassa	Nialel	4: 37-38, t.16. 1683
Werlingen	Maquinha	Lassa	Nyalel	4: 37-38, t.16. 1683
Wilde Baak-roosen	Catupinaca-Brava	Dava-Sotulari	Katou-adamboe	4: 47, t. 22. 1683

Wilde Citroenen	Limaodo Mato	Nani	Mal-naregam	4: 27-28, t. 12. 1683
Wilde Crayebessen	Fruita da Gralh do mato	Cit-naqueri	Katou-kadali	4: 91, t. 43. 1683
Wilde Jambosen	Rosario de Jambu	Sada-pali	Caipa-tsjambu	4: 11-13, t. 6. 1683
Wilde Jambosen	Rosario de Jambu	Sada-pali	Samstravadi	4: 11-13, t. 6. 1683
Wilde Keyzers-Vreught	e Spinho Santo Bravo	Namidou	Kara-angolam	4: 55-56, t. 26. 1683
Wilde limonene	Limaao Coroado	Coduvo-nani	Katou-naregam	4: 29-30, t. 13. 1683
Wilde Mannekes Nolle-boon	Nozde moluco falso	Ambadeki	Panam-palca	4: 9-10, t. 5. 1683
Wilde Olyven	Azeitones do malavar	Gali-dousa	Perin-kara	4: 51-52, t. 24. 1683
Wilde Teka	Teka-Brava	Davas Sailo	Katou-theka	4: 59-60, t. 28. 1683
Wit Theka	Theka-Macho	Kasilo	Ben-theka	4: 63-64, t. 30. 1683
Witte Crayebessan	Fruita da Gralha Branca	Bel-naqueri	Ben-kadali	4: 89, (no plate). 1683
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