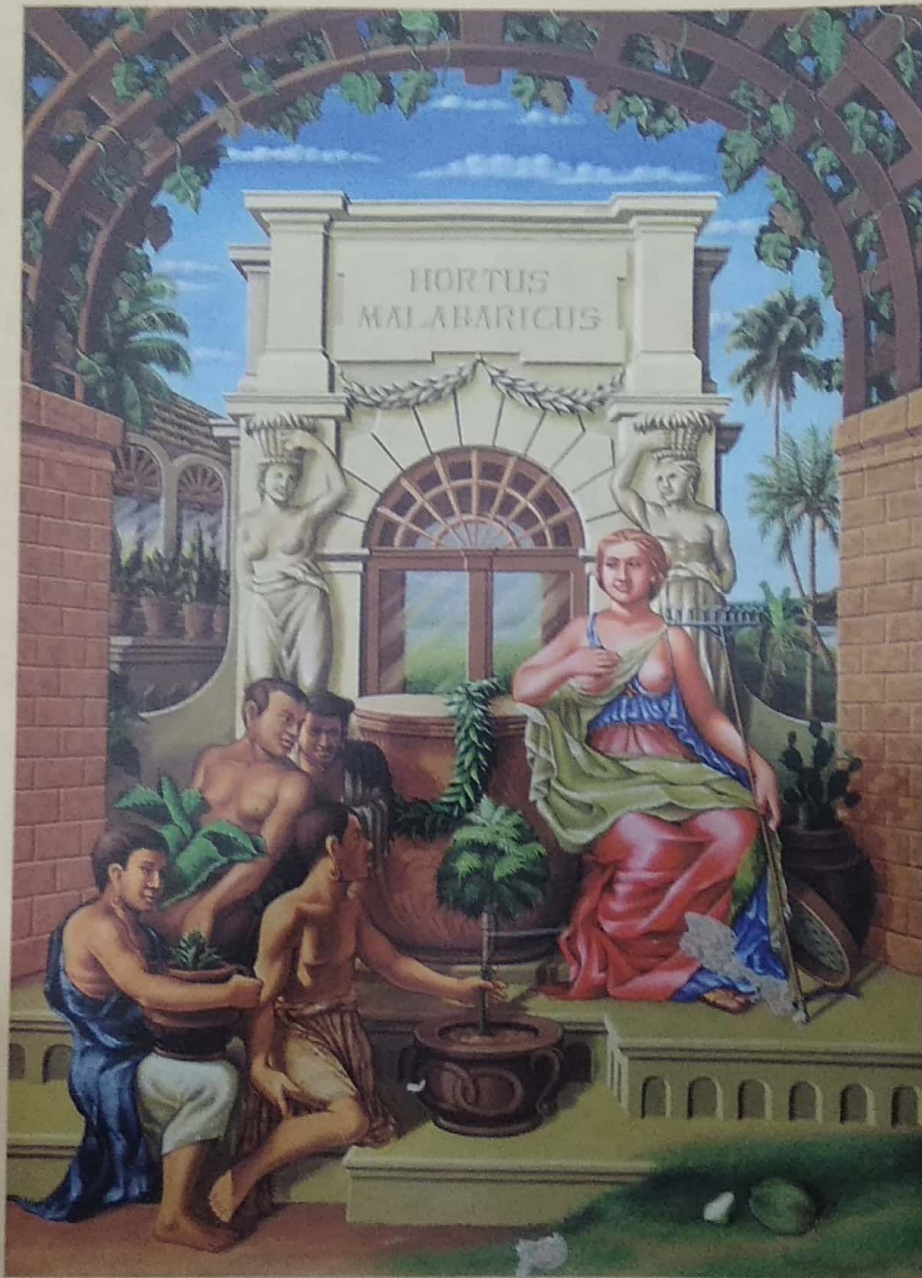


VAN RHEEDE'S HORTUS MALABARICUS ENGLISH EDITION

With Annotations and Modern Botanical Nomenclature

By
K.S. MANILAL

VOLUME - 9



UNIVERSITY OF KERALA



Hendrik Adriaan Van Rhee (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 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.

VAN RHEEDE'S
HORTUS MALABARICUS
ENGLISH EDITION

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HORTUS MALABARICUS
(MALABAR GARDEN)

ENGLISH EDITION

VOLUME 9



WITH ANNOTATIONS AND
MODERN BOTANICAL NOMENCLATURE

by
K. S. MANILAL
Emeritus Professor

Research Supported by the Department of Science & Technology
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(Malabar Garden)
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PART NINE
HORTI
MALABARICI

concerning
HERBS AND THEIR DIVERSE SPECIES

Expressed in Latin, Malabaric, Arabic, Brahmin characters and names
Along with accurate description of Flowers, Fruits, Seeds sketched in
their natural size, mentioning colours and inner powers

Adorned by
The Most Noble and Generous D.D.

HENRY VAN RHEDE TOT DRAKESTEIN

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,

Put in order and Latin style touched up by

ABRAHAM a POOT M.D.

With explanatory notes, & illustrated with commentaries by
JOANNES COMMELINUS



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 1689.

FACTS AND THEIR DIVERSE OPINIONS

It is the duty of every citizen to be informed of the facts and to express his opinion thereon. This is the only way in which the people can control their government.

Addressed to

The Honorable Governor of the State of New York

HENRY VAN RHEDE TOT DRAKESTEIN

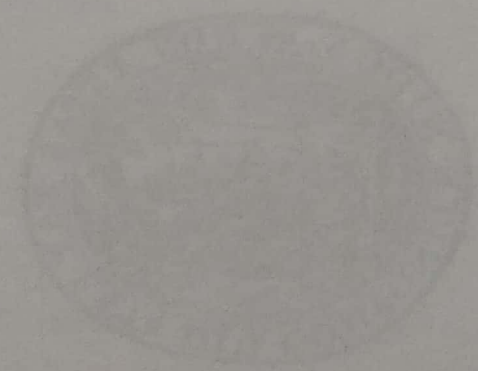
The Honorable Governor of the State of New York is requested to take the following action: To cause to be printed and distributed to every citizen of the State of New York a copy of the report of the Commission on the Administration of Justice, which report was submitted to the Governor on the 15th day of June, 1915.

It is requested that you cause to be printed and distributed to every citizen of the State of New York a copy of the report of the Commission on the Administration of Justice, which report was submitted to the Governor on the 15th day of June, 1915.

ABRAHAM A. FOOT M.D.

With reference to the report of the Commission on the Administration of Justice, which report was submitted to the Governor on the 15th day of June, 1915.

JOHN W. COMPTON



Very respectfully,
JOHN W. COMPTON
Secretary of the State

TO THE MOST GENEROUS MAN
D GODARDUS WILHELMUS
VAN TUYLL VAN SEROSKERCKEN

The van Wellant, Solckercken, etc., once appointed to the orders of first place of the Diocese Trajectina, Canonicus of Ancient Monastery, Praefectus aggeris and Senator superior.

This small gift I sent you, Most Generous Man, in your absence as a token of my devotedness and supreme love. For living as I am, in remote regions of the Indians I am separated from you, I always keep before me your most pleasant image. These remote regions, as they say, are warmed up by the heat of the sun. Enjoying this warmth I assert, your pleasant image is always before me. That image is fixed deep down in my heart so much that no distance of time or space can obscure it. What has tied you to me is not only necessity of blood-relationship, but also your wonderful sincerity of character, tempered by certain gravity, nay more, you are endowed with outstanding brilliant knowledge of arts and science and humanity. You spend the hours not in empty useless things, but occupying your-

self in things Divine and human.

In such occupation of the study of arts and science and humanity you have a unique place among friends. You hold a place more subtly different from those who spend their time in such occupations in every age in the past. Therefore as the study of such beautiful arts has been holding you, there is no doubt that this volume of Malabar Garden, will be acceptable. In the cultivation and gathering of this garden, I profitably spent myself. This volume contains trees, fruits and herbs unknown in our parts of the globe. It will not be unwelcome to you, I hope. This offering is made by your relation from the remote regions far away from there; I make this offering filled as I am with love and benevolence. I should like you to be persuaded of this.

To Your Noble Name

Devotedly yours

H. VAN RHEDE TOT DRAKESTEIN

ENCOMIUM
CONCERNING
MALABAR GARDEN
FOR THE NOBLE RUSTICATION OF
DN. ABRAHAM VAN POOT,
THE MOST ERUDITE AS WELL AS THE MOST ILLUSTRIOUS
MOST CELEBRATED AND TO BE MOST CELEBRATED DOCTOR OF MEDICINE.

Ah! How much can a mortal breast comprehend!
What great things you hold when the innate disposition
Takes you to the place of retreat!
What great things your efforts grasp!
Very many skilled attention over various diligent
What have they undertaken without cares
Finally the things undertaken crowned with wreaths
What bounteous wealth of resources Nature lavishly pours out!
With these they give delicious rewards stirring up
The seeds concealed beneath the ground
Is there any other writer like him who with such painstaking labour
Nourishes and cultivates Malabar Garden
So that it spreads throughout the world his herbs
Now the burden of such great work has already wearied out many others
But he took up on himself alone on his shoulders and neck

Most recent labours also when brought to him
 Whence progress (of the work) being resumed
 Work rejoices and is happy, Blessed Patrono
 The toil is in his own hands and is ablaze
 Of structure so magnificent with time becoming delightful
 The same thing to be sublimely adorned at the pinnacle with wreath
 You, Great man, whoever sees you and your
 Labours stand out aghast with astonishment
 That famous Hercules is your inspiring spirit
 When you are surrounded by many labours
 Look at the wonderful diligence shown in various directions
 When crowded on all sides with cares of things to be done
 In the midst of such crowded programmes of your own accord
 You sent for more new ones to be undertaken so that
 Pleased with burden already taken up
 That palm of yours may be fresh to be applied to more works
 You seem to take delight in the accumulation of labours upon labours
 In your work you may be united with many others
 But what you alone can, hardly be accomplished as well by others
 How praiseworthy such skillfulness of yours!
 You cultivate the ploughed fields with
 Solicitously selected medicinal plants arranged close together
 But let them not grow only in selected healthy fields
 As glorious beauty for the body only
 With your extreme care for the infirm mind
 Let there be a sound mind too and
mens sana in corpore sano
 (Sound mind in a sound body)
 And let your brilliant science be a beacon light for a vigorous life
 Here is the book, in writing and editing it you toiled
 Day and night; here I offer you the book
 You can rejoice as you take your well earned rest
 The very first volume of history is offered to you
 You don't stick on to things present and close by
 (As many do); you cast your eyes at far away places
 As far as the shores of PANNONIS

Besides the books which you yourself compose and edit
Many other works are there to see the light
Or books which by chance are not found in our libraries
Your nutritional care again restored it
That care again carries it and publishes, spreads it far and wide
What more is there to add? You are indefatigable in work
Very little rest for the eyes, for the mind hardly any
You withdraw the wakeful eyes and thus tackle the sleeplessness
Your intention being to serve the sacred Republic
In whatever way possible
And seek the glory you deserve by these rewards
Well done! Your reward? What reward can be estimated
For such great writings as yours.
If any one values your great writings in terms of silver and gold
He is an iniquitous judge to confer on a writer like you
Silver and gold which are nothing but useless sandy ballasts
Oh TAGI* (**etrurim deity*), sing your praises on these writings
And confirm on many writers your gifts
What you send to India and beyond
Is riches of your own writings, real gems
Journey courageously undertaken can take you
As far above as the stars
No ill will towards anyone finds a place in you
Present fame may withdraw, but honours follow beyond the absent
With many writings to your credit you are
Sufficiently known to the world
You live everywhere.

NICOLAUSKIS M. TOTFALUSI *Hungarus*,
Master of Arts and Literature

TO THE MOST CELEBRATED AND ALLROUND ERUDITE
MAN
DN. ABRAHAM VAN POOT
EMINENT MEDICAL DOCTOR
offering
MALABAR GARDEN
to the Public, to Our Lord deserving our
veneration for ever.

Endowed with an innate splendor of the mind
More penetrating than a flash of lightning
He longs for arduous things to be given to him
Here is Poot: by a kind of divine wisdom
He grasps in acute vision everything
Like a honey bee taking in honey in the valley
A Medicus as he is, his ingenuity knows no bounds
Just as for Alexander the whole earth was not too vast for conquest
By the dexterity of his inborn spirit and of the pen
He emerges more sublime blowing away any smoke of envy
Wonderful, it seems to me your variegated virtues:

Care, toil, kindness, skill, all these stand out
 You hold within your care arable lands, Great Man
 Lands your sacred field, so to say, of weapons to wield
 And Alma Historia has not escaped your embrace
 For recently we saw how your auspicious hands
 Have disposed of the inauspicious destruction of Hungary
 I am a witness of the Great Works.
 In it favourable mention is made of victory gained
 Your house holds many examples of this sort
 You are engaged in an uphill task
 You are by your arduous task tending
 Towards the double horned Parnassus
 What prevents you from taking up more heavy burdens of love?
 Is it journey? I believe that labour of Hercules and
 Rough experiences of life and hard care undertaken
 Do not sit lightly on you, But stand firm!
 For persistent labour subdues everything
 Through sea, through land
 Everything is helpful to everything else
 And fortune favours us with such great success
 If we are willing to put our own efforts
 Such that no pen can describe
 Behold, we have to go on toiling, because night comes
 This is your Sparta
 Feed the flock of Christ in whatever way you can
 We also are not given the same sort of function to do
 To each one is given duties according to his age
 The face of the earth is of different colours
 Nature presents diverse parts
 The year itself consists of four successive seasons
 Spring follows winter solstice
 Spring receives sweltering heat of summer
 After Summer comes Autumn, which soon snow covers
 In this fashion Nature knows how to serve

There surges to you Praise and Honour
 Undeatable by any age in Thorus
 In Forums as far as the Poles
 I don't think there is on you greater burden
 Nor do I think greater stability of honour
 Rests upon any other man in this life
 Virtue publicly manifest as same
 Can be beneficial and open out to others
 Undoubtedly the care of sacred things is fruitful
 Through the seething waters of the sea
 Through flowers, through Thyma tree it flies
 Like the honeybee taking in fragrant honey from the Thyma
 This is the reward of virtue cherished at heart
 It spreads radiance over the earth
 For it cannot set any limit
 Over the ocean it goes, joins various kinds of works
 Deteriorating base things vanish
 What is buried under the soil springs up and
 Appear as tree soaring up in the air
 Thus the sacred are neither silent
 Nor do they admit of set boundaries
 The eagle knows not to generate weakling doves
 The sacred do not produce unclean hands
 Hence the care taken by Poot
 His merit and labour are steadfast virtue
 He dares to send abroad permitted flowers
 Tell me to which place especially?
 Malabar is the chosen place
 It is the Garden of Malabar which sustains them
 Now both hands of Poot are extremely free
 What do they do there ever watchful?
 Let the question be put to the Master (Hesus) himself
 A bounteous favour? For noble is the Garden (Hortus)
 Put orders! For with him God Himself is at hand

To help him to carry on the work
 Mother Earth has undertaken ample works
 Here are, to gather up in bunches
 Roses, Lapathum and Melathium
 There are seeds for him to care one by one
 Adrachnes he can have, or Daucus, Ammum
 Apiastrum, Urticum, Alicastrum
 Diverse kinds of seeds too he can have
 Seeds he saw in a heap, all mixed up, unclassified
 He picks up each one apart and each one is given its name
 It is a difficult task, I admit
 Subject to one man alone as he had
 He holds the weight of burden
 Besides him very many skillful Medici
 Wrote treatises by sweating over them
 But he alone completes so as to secure degree, how wonderful!
 Tenderness, skillfulness, cares, all together in one accord
 Resound to declare: the man is praiseworthy!
 This work too will declare his praise.
 I don't want this work to be extolled by many.
 Have a look at the Opus first, then look for what you wish
 It will give you both.
 Go in with the good bees, Most Celebrated Doctor Poot
 Be to you alone the care
 Be it to you alone to finish this work (book)!
 In the meantime you may thrive with your
 Charming tenderness and devotedness to hard toil,
 Doctor unique and harmonious!
 But no effort can be happy and helpful
 No united deliberation fruitful
 Unless God Himself is there to help us with His Grace:
 You God, Omnipotent Creator, Single, Alone
 Without another over the earth
 Eternal Judge, be close to us without end!

Be at hand with Your gifts to the one who sings Your praise
Lift up Your Head among the dense clouds!
Supreme Father, let the Doctor live long years of Nestor
For he desires You and Yours only-
Lead me Supreme Guide
Not without me and through me he redoubles
Without You as Guide he will be dust
O God, hear the man! Preserve his labours in
Ingenious amplexus, through the days he merited
O God, protect this man! Receive him singing Your voice
Cherish him with nectar of Love! Amen!

L.M.Q. Levidensem bunc Carminum Apparatum
AMSTELODAMI sudit

NICOLAUS APTI P.D.

PART NINE
OF
THE MALABAR GARDENS
ON
HERBS AND THEIR DIVERSE SPECIES

Tsjovanna-areli,
or
Fula Mestica Incarnata

FIG. 1



ARELI, the Brahmins call *Caneru*, has two species *Sjovanna-Areli*, and *Belutta-Areli*. The former plant is short, with a middle stem rising up straight, which gives out branches obliquely upwards, the thickness almost equals with an arm, with white colour, with a core similarly white, then ash-coloured; the upper branches are knotted, with green bark, first triangular, later more and more varying (tending) to roundness, the angles (corners) vanishing.

Leaves come out in threes in the nodes, each one from lateral angles (corners) on small, thick, green-white peduncles, plain on the inside and mutually decussate in that order that in the same series or line they mutually appear; are oblong-narrow, cuspidate, narrower on the lower part, about a span in length, with the width of a thumb, thick, solid, pliable in texture, with plain, glabrous surface, on the upper side dark-green, shining, on the lower bright green. The mid-rib is round, thick and white, standing out on the lower side. The taste of the leaves is better; of no smell.

Flowers are seen many clustered together, seven, eight, at the tips of shoots on petioles which come out in threes together from lateral corners, are surrounded towards the origin by a small cuspidate, green leaf-let which



Fig. 1

later falls away, and are full roses with round anteriorly slightly cuspidate, flesh coloured leaflets, separated in three rows, of which each one consists of five petals, those of the outer row turn more intensely red; those of the middle row are more broad and light rose coloured, on the outside more white and shining; the inner most ones are very curled, from which send out small

white flowers, the neck is enclosed in the neck of the leaves of the middle row. In the middle ten floccular (many, aggregated), glabrous, white stamens are numbered, are plain below, tortuous and hairy above. The calyx is made up of five narrow, green, cuspidate leaflets. Smell very pleasing and fragrant.

Buds are oblong, with leaves mutually rolled round upon each other and shining with dark red colour. In the flowers it is besides to be noted that first they are more reddish, and then they tend to be more flesh-coloured, similarly, what is rare, give fruit and not only in older plants; the germ of which both in the flower as the white, oblong, downy style appears; and are oblong and narrow, one and a half digit long, with two sides smooth, green, from the petiole towards the top, striated on the rind with thick lyra, of which two in the middle of the sides more deep where they resolve themselves into two oblong boxes, each of which is covered with a single and broad suture, in which they open themselves (dehisce) because of dryness; the inner rind is downy, rigid and white, bending itself towards the interior and there forming as if two seed-bearing locules. This plant flowers the whole year.

Of no use in medicine.

Nerium oleander L., Sp. Pl. 209. 1753; Leeuwenberg, Meded. Landbouwhogeschool Wageningen 83-7: 1. 1983. -*Nerium indicum* Mill., Gard. Dict. no.2. 1768. *Nerium odorum* Aiton, Hort. Kew. 1: 297. 1789. *Nerium odoratum* Lam., Encycl. 3: 456. 1792 [APOCYNACEAE].

Tsjovanna-areli Rheede, Hort. Malab. 9: 1-2, t. 1. 1689.

The name Chuvanna Areli [Malayalam script on t. 1] is still used; chuvanna means red and areli refers to *Nerium*. The name means the Areli with red flowers. It is widely cultivated in Malabar.

—•—

Belutta-areli
or
Fula-mestica Alba

FIG. 2



FROM the former plant this differs only in that it is with a simple, five-petalled flower, and with white colour, then tending to be very lightly flesh-coloured: the interior of the flowers is with a yellow coating, radiated in length with veins, giving out from the margin above many, oblong, white florets. The stamens are floccular (many, aggregated), oblong, hairy, rolled up in curly manner, have a white style in the middle, provided with a head; flowers are of pleasing, nay very pleasing smell; but have no use in medicine.

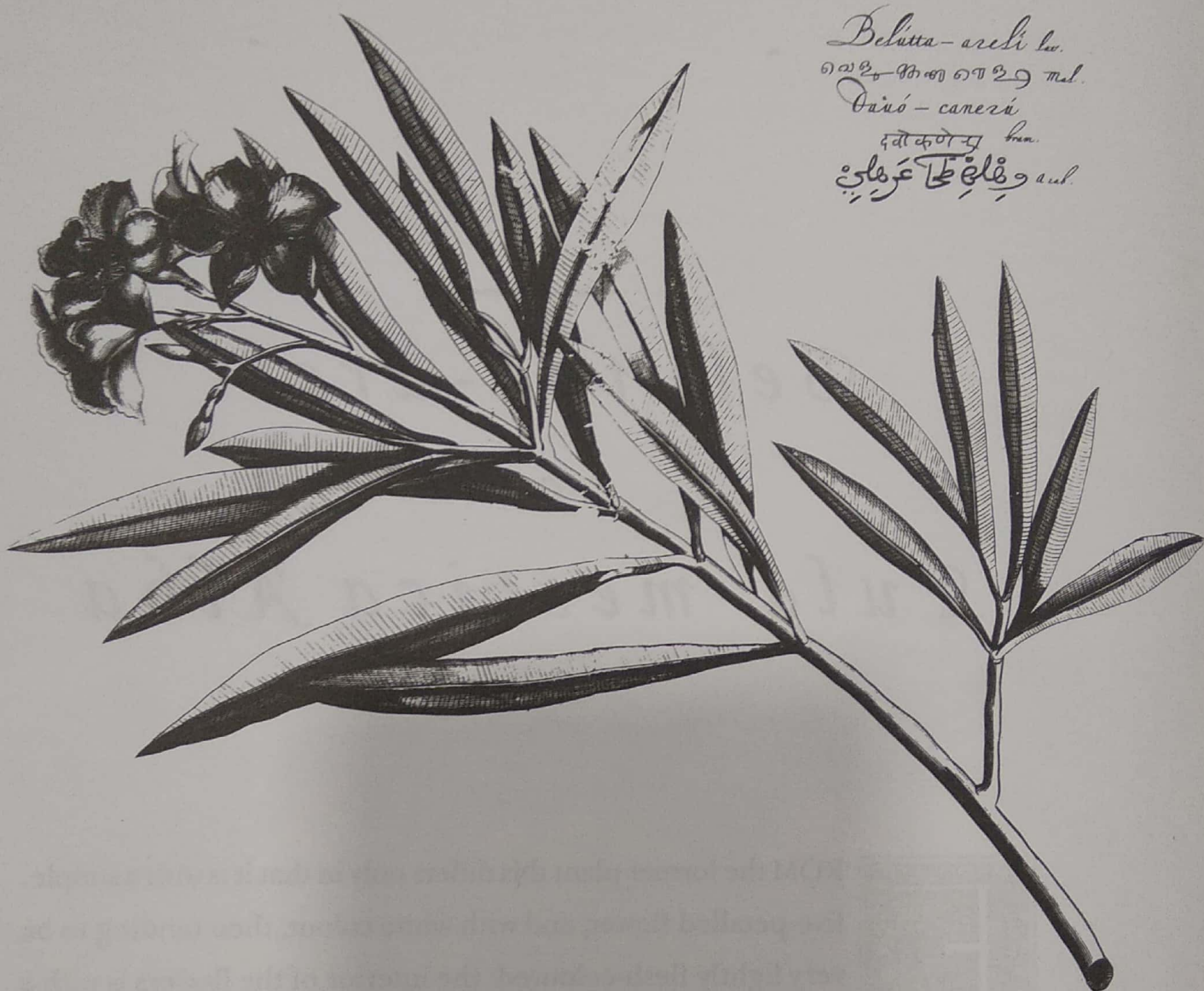
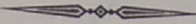


Fig. 2

Nerium oleander L., Sp. Pl. 209. 1753; Leeuwenberg. Meded. Landbouwhogeschool Wageningen 83-7: 1. 1983. -*Nerium indicum* Mill., Gard. Dict. no.2. 1768. *Nerium odorum* Aiton, Hort. Kew. 1: 297. 1789. *Nerium odoratum* Lam., Encycl. 3: 456. 1792 [APOCYNACEAE].

Belluta-areli Rheede, Hort. Malab. 9: 3, t. 2. 1689.

The name Velutha Areli [Malayalam script on t. 2] is still used; velutha means white and Areli refers to *Nerium*. The name means the Areli with white flowers. It is widely cultivated in Malabar.



N e l e m - p a l a

FIG. 3, 4.



ELEM-PALA; in the language of the Brahmins *Utago Culo*, is a plant growing in sandy soil, up to the height of almost three men; the stem may equal one man's thickness.

Flowers arise many clustered together on thick, green, hairy petioles, at the origin surrounded by leaves, are five petalled, oblong, thick, bent with the tips towards one side, curled towards the out side, inside from yellow to reddish, on the outside turning green; in the middle stands out a hollow, round, reddish centre, in the very margin with annular, red foliaceous lobe, which gives out erect tips at the inter spaces of leaves, surrounded as if by an erect collar, which turns dark above. From the centre of this stands out an oblong, conical, woody white style, a little hairy, theca shaped, formed of five column stamens united together, concealing inside a green globule, rudiment of the fruit. The calyx green, formed of five round leaflets.

The buds are conical in which the petals of the flowers spirally roll up to the top, on the outside dark green, turning light bluish or of grass green colour, on the inside of light green colour and turgid with milk.



Fig. 3

(Its Uses)

Arthritic fevers are cured by bath from the leaves and the bark; cold fever however by pills made from the fruits, with ointment from root and green *curcuma* (turmeric) in the washing of rice, and crushed in warm water with the whey of milk, hot arthritis is dispelled; from the levigated bark of the root is made a globule to the size of *Areka*, which when swallowed is an instant remedy in snake-bite.



Fig. 4

Wrightia tinctoria R. Br. in Mem. Wern. Nat. Soc. 1: 74. 1811; Wight, Ic. 6, 44. 1841; Bedd., Fl. Sylv. t. 241. 1872; Hook. f. Fl. Brit. India 3: 653. 1882; Gamble, Fl. Pres. Madras 815. 1923; Cooke, Fl. Pres. Bombay 2: 200. 1958 (Repr.); Mathew, Fl. Tam. Carnatic 3: 922. 1983; Manilal, Fl. Silent Valley 175. 1988; Pradhan in Singh et al. Fl. Maharashtra St. Dicot. 2: 327. 2001. [APOCYNACEAE].

Nelem-pala Rheede, Hort. Malab. 9: 5, t. 3-4. 1689.

The name Nelen pala [Malayalam script on t. 4] is still used. Nelem (from Neelam) means blue and pala refers to plants like *Alstonia scholaris* that produce milky (pal means milk) latex. When the leaves of this plant is kept in a glass of coconut oil for a few hours, the oil slowly turns blue in colour (after 12 to 18 hours its colour becomes brown and ultimately black). The name indicates this property of this species. This blue coloured oil is used as an effective medicine against psoriasis. It is occasionally found along the highlands in Malabar.



Belutta-kaka-kodi

FIG. 5, 6.



ELUTTA-KAKA-KODI; is a creeping plant, the branches a bit thick, round, knotted, in the knot swelling up with nodes, with white wood, the core of which is thick, light green, the bark is green and yellowish, greatly woody both very much milky.

Leaves in pairs in a decussate order and seen in the nodes of branches, the petioles of which are oblong, round, standing out anteriorly with a narrow tip, thick in texture, on the lower side very downy, very smooth, green-white, on the upper side beset with minute hairs sparsely and because of hairy core semi-round, of dark and shining colour. The mid-rib gives out many lateral ones, all of which stand out on the lower side.

Flowers many together appear at the tips of shoots, the pedicels of which are thick, round, green and reddish, surrounded by small, cuspidate, reddish leaflets towards the origin, are of five petals, and very white, the petals themselves oblong, tight with claws, anteriorly broader, and with round margin, bent towards one side, where from red lightly turn yellow; their neck is oblong-round, and turgid with milk, drawn together the calyx and as if bulging out with five ribs, shining on the outside, and yellowish from the

neck, on the inside beset with yellow down. Calyx tightly clasps the neck, is of blood-red colour, made of five roundly cuspidate leaves. The smell is very fragrant, itself caryophylla, and when the flowers turn yellow, breathing mature

Belutta-kaka-kodi Sw.

മലട്ടാകാകാ കോടി Sw. Mal.

وَقْلُوَطَا فَا فَا فَا فَا فَا F. arab.



Fig. 5

melons. Their style is conical and yellowish, is formed of five rigid; woody, cuspidate stamens, turning yellow from white, on the inside bifid, and encloses a thick green head, emerging from the centre of the calyx. Flower buds are

conical, formed of spirally rolled up leaves first of dark blood-red colour then white with brilliance and before opening turning yellow: the calyx of which is dark, blood-red.

Fruits come out in pairs, are long, round, narrow, drawn out into a tip, on one side green, on the other side, by which is exposed to sun, reddish, striated

Belutta-laka-lodi L.

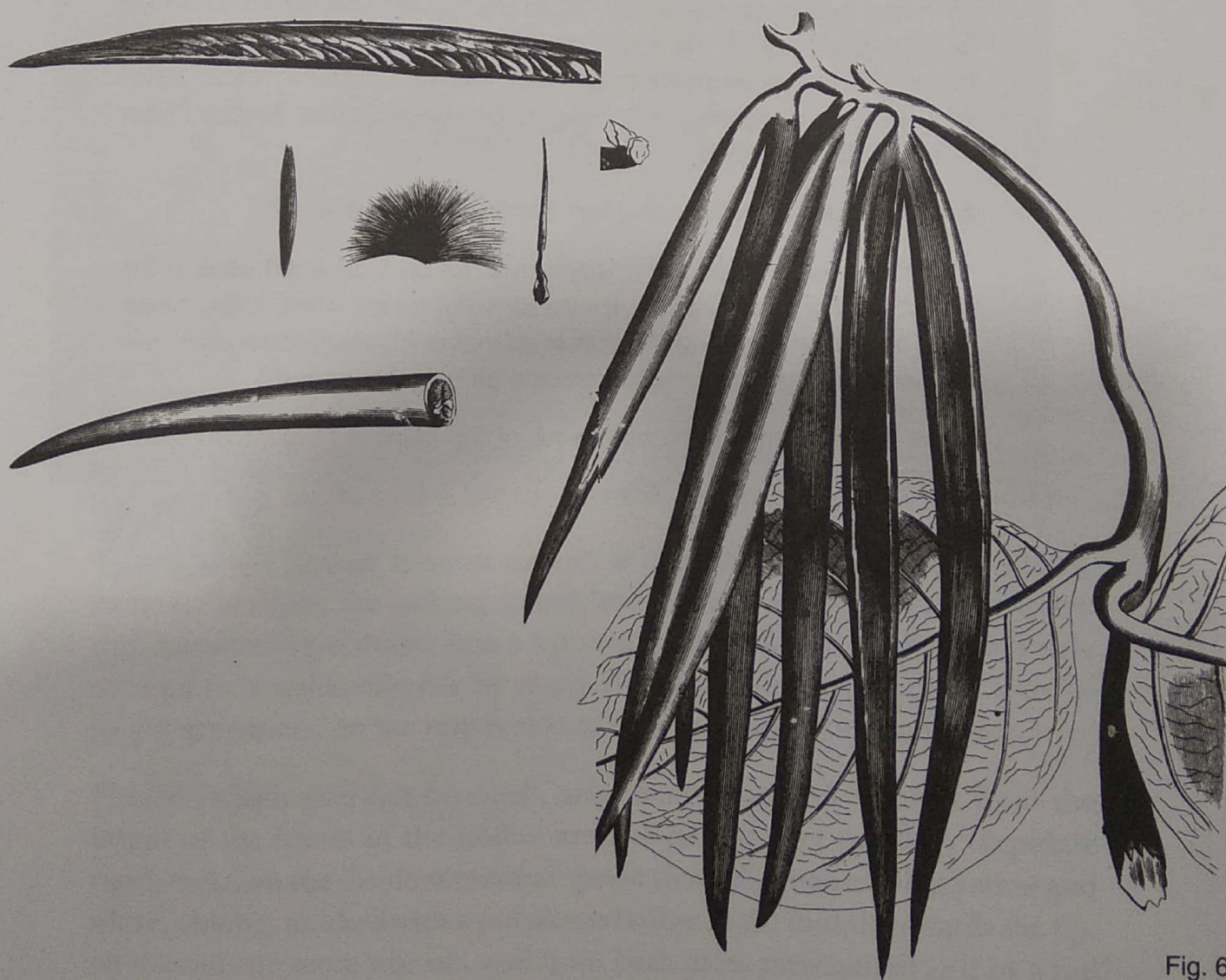


Fig. 6

with a furrow, with the bark very milky, containing in itself a heap of numerous seeds, which are plain and red, and mutually protecting each other like a shield, provided with small brushes of silvery stamens, which finally spread themselves in all directions.

Powers unknown.

Chonemorpha fragrans (Moon) Alston, Ann. Roy. Bot. Gard. Perad. 11: 203. 1929; Chatterjee, Kew Bull. 3: 68. 1948; Manilal & Sivar., Fl. Calicut 162. 1982; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 56. 1983; Sivar. & Philip, Fl. Nilambur 413. 1997. - *Echites fragrans* Moon, Cat. 20. 1824. *Echites macrophylla* Roxb. [Hort. Beng. 20. 1814], Fl. Ind. 2: 13. 1832, non Kunth 1819 (incl. type of *Echites fragrans* Moon 1824). *Chonemorpha macrophylla* G. Don, Gen. Syst. 4: 76. 1837, nom. illeg. (incl. type of *Echites fragrans* Moon 1824). *Chonemorpha rheedei* Ridl., Agr. Bull. Straits Fed. Malay States 10: 146. 1911 (not seen), nom. illeg. (incl. type of *Echites fragrans* Moon 1824) [APOCYNACEAE].

Belutta-kaka-kodi Rheede, Hort. Malab. 9: 7-8, t. 5-6. 1689.

The name Veluthakakkakodi [Malayalam script on t. 5] is still used in the variant form of vellakakkakodi; velutha (or vella) means white, kakka means crow and kodi means twig. It occurs in uplands of Malabar and sometimes in lowland sacred groves (forests protected on religious grounds)

. The more common present name of this plant in Malabar is Perum-Kurumba.



Ada-kodi en

FIG. 7



ADA-KODIEN is a plant binding itself with sinuous branches. Root white, fibrous; inside with woody filament; of no taste. Stalks round, green, noddled, inside a bit woody and milky.

Leaves arise in twos in a decussate order, on round, long, tortuous petioles, are oblong round, more broad lower down, anteriorly with round margin drawn into a tip, soft, milky. Smooth, on the lower side covered in a trellis manner by many ribs which striate the upper side, of bright greenness, on the upper side of dark greenness, of woody taste.

Flowers, which give out no smell, arise many clustered together from the origin of the leaves in the nodes, are like cyathia, five petalled, cuspidate rigid, erect, on the inside somewhat spoon shaped, green turning yellow and white, oblong, marked with a purple-red ridge in the middle towards the tip, on the outside more whitish, and from both parts surrounded as if by a red fringe, from the centre of which a thick, green-yellow, white, style comes out, which is drawn together towards the top into five acute angles, provided with five black tips at the top; calyx plain, tightly surrounds flowers with five leaves, at the bottom striated with arches.

Buds are conical, fruits oblong, anteriorly cuspidate, has three bulging out ribs, and contain in themselves a heap of oblong-round and plain seeds, which mutually cover themselves, and anteriorly send out from the narrow orifice a small brush of oblong silvery filaments and fruits green-yellow, then reddish, on the whole these fruits are similar to the fruits of *Ericu*.



Fig. 7

(Its Uses)

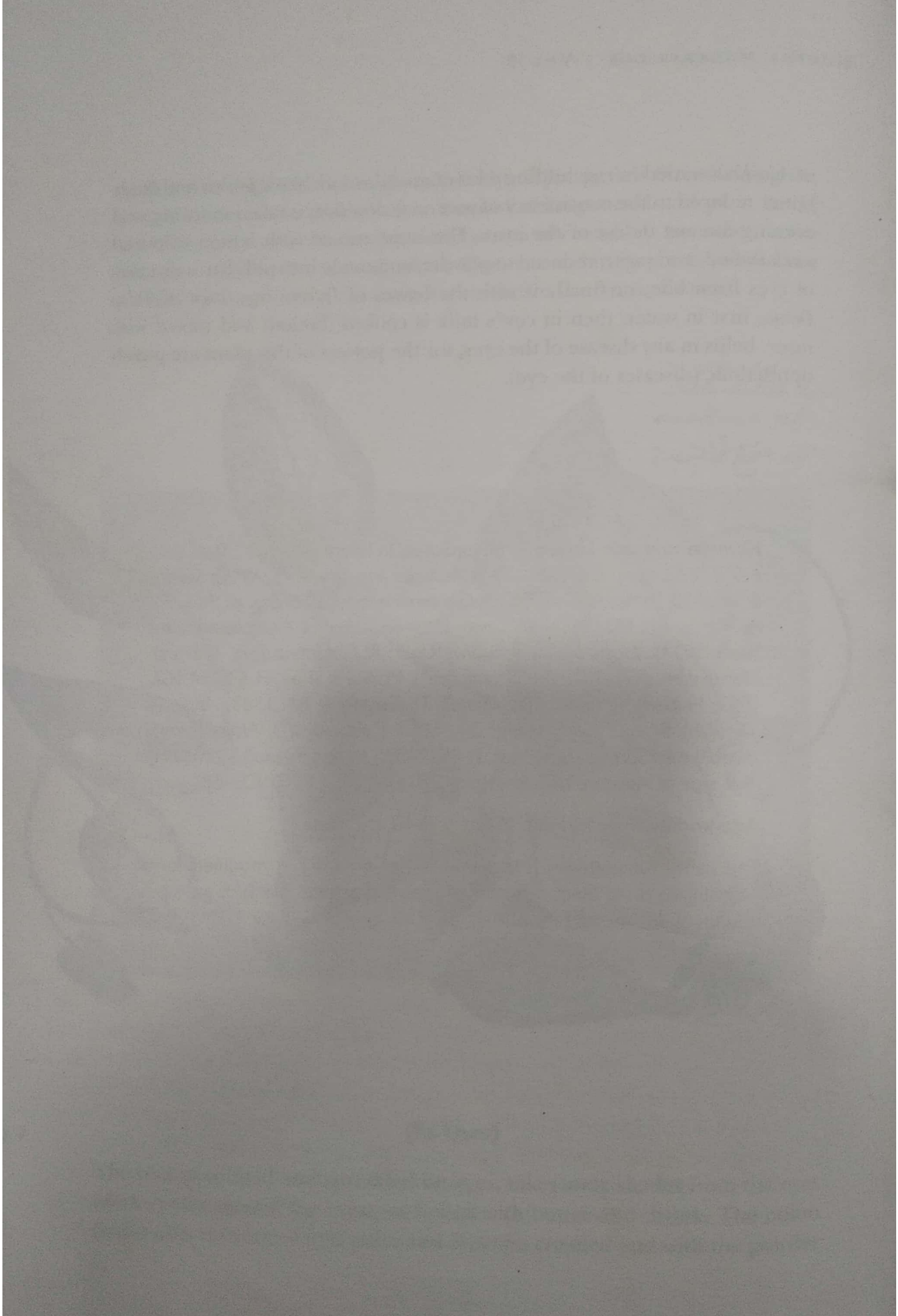
The root powdered and sprinkled on eyes, takes away shades from the eyes (dark circles around the eyes), or boiled with butter and drunk. The onion (bulb) with the root of wild palm and *Scelengu* crushed and with the powder

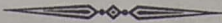
of *Ada-Kodien*, tied in rag, adding a bit of *sandal* wood, black *Jeribili* and fresh butter reduced to the consistency of wax on a slow fire, is taken morning and evening for any defect of the eyes. The same mixed with lemon coloured *sandal* wood, and *sugar*, reduced to powder, and made into pills cures diseases of eyes from bile; or finally if with the leaves of *Inferni* figs, root of *Talu-Dama*, first in water, then in cow's milk is cooked (boiled) and mixed with *sugar*, helps in any disease of the eyes; for the powers of this plant are purely ophthalmic (diseases of the eye).

Holostemma ada-kodien R. Br. ex Schult. in Roem. & Schult., Syst. Veg. 6: 95. 1820, nom. illeg. (incl. type of *Asclepias annularis* Roxb. 1814); Sasidh. & Sivar., Fl. Thrissur 291. 1996. - *Holostemma rheedei* Spreng. ex Wall., Pl. As. Rar. 2: 51. 1831 ("*rheedi*"), nom. illeg. (incl. type of *Asclepias annularis* Roxb. 1814). *Holostemma annulare* (Roxb.) K. Schum. in Engl. & Prantl, Pflanzenfam. 4(2): 250. 1895 ("*annularis*"); Manilal & Sivar., Fl. Calicut 167. 1982; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 81. 1983. *Asclepias annularis* Roxb., Hort. Beng. 20. 1814 ("*annularia*"). *Holostemma rheedeanum* Spreng., Syst. Veg. 1: 851. 1825 ("*rheedianum*"), nom. illeg. (incl. type of *Asclepias annularis* Roxb. 1814). [ASCLEPIADACEAE].

Ada-kodien Rheede, Hort. Malab. 9: 9-10, t. 7. 1689.

The name Adakothiyan [Malayalam script on t. 7], a modified form Adapathiyan is still used. Adapathiyan means prostrate (plant). It grows in uplands of Malabar.





Kaka Kodi

FIG. 8



AKA-KODI, or according to the Brahmins *Kiti*, is a plant growing in sandy soils, climbing and binding itself around trees by means of its sinuous branches.

Root fibrous; stem, a foot thick, with older braches has ash coloured bark, which is divided into filaments.

Leaves in pairs mutually decussate, on shoot-lets first green which later turn black, and arise from the nodes of the branches, bulge out the origin and are knotted, are oblong, narrow, round towards the pedicel, with a short tip at the top, thick, dense, glabrous in texture, on the upper side of bright, deep and very shining greenness, of slightly biting, little acidic and vine taste.

Flowers arise in umbels, or at the tips of foliaceous shoots and both when are longer ones, from their side and when are shorter, and are small yellow buds, made of five, oblong narrow and yellow leaves, clothed inside with white, downy hairs, chiefly in the mouth of the upper neck, thinly and loosely on the leaves; their neck is yellow and more narrow on the upper part; the calyx from which it comes out, turns yellow.

From one flower fruits are given out in twos, are oblong round, anteriorly more narrow, in the first part tightly joined and mutually turned to each other, with green, glabrous, thick rind, which when dry is rendered woody, on the outside blackish, and striated in length with wrinkles; they contain



Fig. 8

many seeds towards the lower thicker part, which in the narrower point or tip give out small brushes of oblong, silvery filaments; and are plain, very compressed and slender, oblong-round, placed in the manner of a shield, first green, then white, at last dark-red, provided with a white eye: flowers exceed in size those of *Watta-Caca-Codi*, so also the brush.

(Its Uses)

The leaves come for use in suppressed lochis (lochia is the discharge after child birth). The same with the milk of Indian nut crushed and smeared on the chest, sets suffocation resulting thence. The root with tender roots of *Arequirae*, wild palm and *Toddeli*, boiled in skimmed cow's milk and smeared on to the affected part heals the pain in kidneys and sciatica (?), or also with *Tondo*, *Ulinja* and other roots cooked in the whey of milk or in the oil of the "*Leaves de Inferno*", heals "gonagrae" or finally with the root of *Talu-Dama*, first in water then in the oil of *Sergelim*, *Bepa-Meis-Elu*, and then in skimmed milk, in the juices of *Tamarind* and *Muringu* and boiled to the consistency of wax, heal arthritis in general, of which eighty species (of arthritis) are named (numbered) by the natives; for they call what every pain of gas affect the body in the name of arthritis as of the principal sickness.

Anodendron manubriatum Men., Philipp. J. Sci. 7: 333. 1912; Sasidh. & Sivar., Fl. Thrissur 288. 1996. -*Anodendron paniculatum* (Roxb.) A. DC. in DC., Prodr. 8: 444. 1844. *Echites paniculata* Roxb., [Hort. Beng. 20. 1814, nom. nud.] Fl. Ind. 2: 17. 1832, non Poir. 1812., nom. illeg. (incl. type of *Anodendron paniculatum* A. DC. 1844); Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 69. 1983 [APOCYNACEAE].

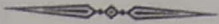
Kaka-kodi Rheede, Hort. Malab. 9: 11-12, t. 8. 1689.

The name Kakkakodi [Malayalam script on t. 8] is not used; kakka means crow and kodi means twig. No Malayalam name is currently available for this species. It occurs along forest margins throughout Malabar.

Kudici Kodi

FIG. 9



UDICI-KODI, in another name *Duda-Valli* is a creeping plant, growing in rocky soil. Stalks round, tortuous, knotted, mutually rolled upon itself, a bit woody and green, the core of which is green, aqueous.

Leaves arise in pairs on thick, green pedicels, plain on the inside, are oblong, towards the pedicel with a round margin, anteriorly narrowed into a tip, dense, thick in structure, with plain and glabrous surface, on the upper side of deep greenness, on the lower of light greenness, of woody taste. The mid rib stands out on the lower side, and somewhat on the upper side.

Flowers arise in umbellate fascicles, on oblong, round petiole, in the nodes towards the origin of leaves, are star-shaped, five petalled, oblong, cuspidate, from light green to white-yellow, striated in the middle of the petals with a light green vein, with a thick neck, with a round and deep mouth, on the outside provided with reddish veins in the neck, without smell. From their centre comes out a thick, white, theca-shaped style made of five small spirally rolled up stamens, each one of which is provided with an oblong, cuspidate

head and joined together from the head of the style, in which is hidden a green filaments, endowed with a green, oblong head, sending out its head with stamens as own theca. The seat to which the style is attached, is star-shaped, of five radii which are served to the neck at the inter-spaces of petals.

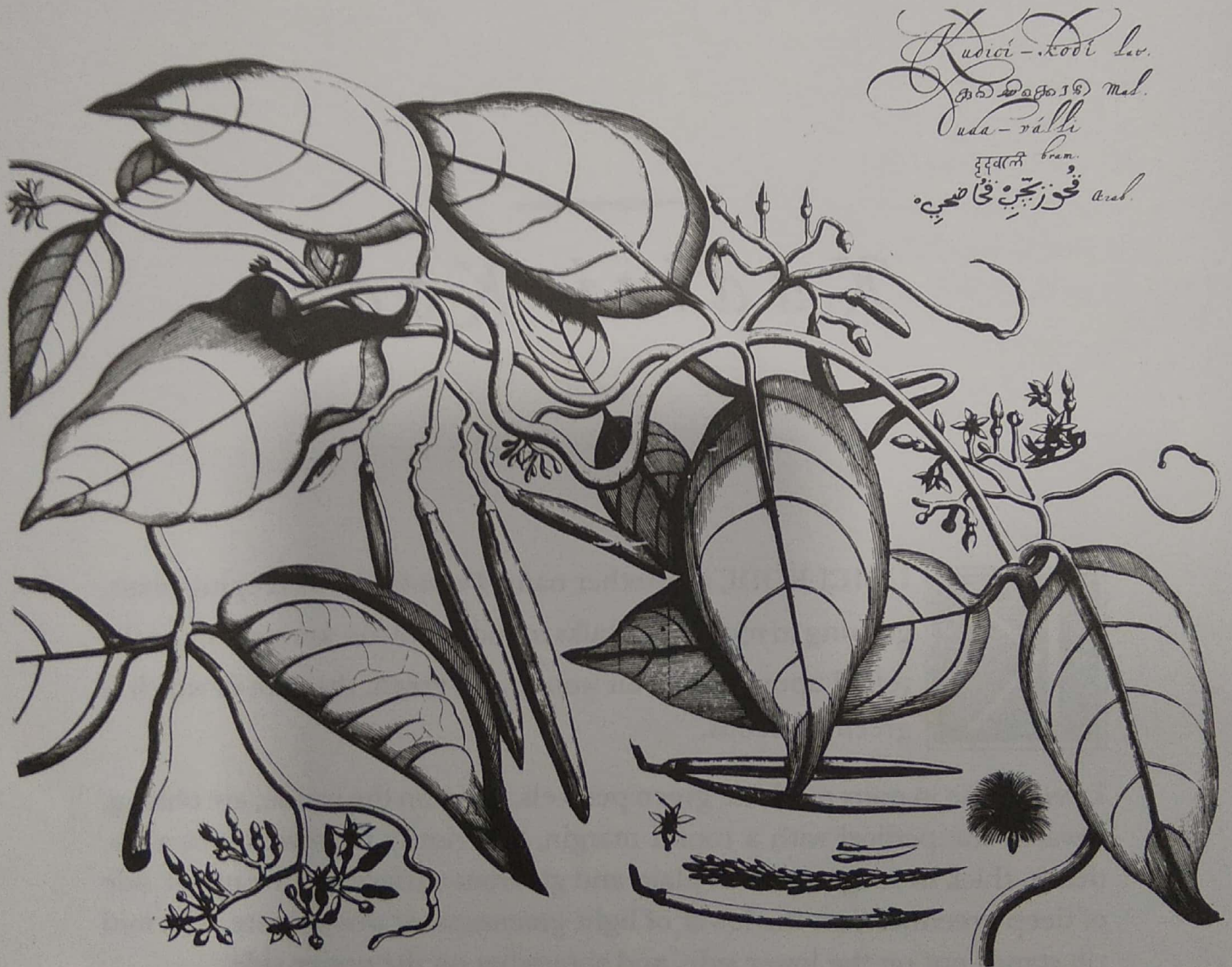


Fig. 9

The calyx, tightly clasping the neck of the flowers has five tips, turning red in the margin of the tips. Buds are oblong, first green, then green-yellow and whitish.

(Its Uses)

An ointment prepared from this plant with cow's milk, oil of *Sergelim*, and applied to the temples, resists the haemorrhage of nostrils.

Parsonsia alboflavescens (Dennst.) Mabb., Taxon 26: 532. 1977; Manilal & Sivar., Fl. Calicut 163. 1982; Sivar. & Philip, Fl. Nilambur 416. 1997. - *Periploca alboflavescens* Dennst., Schlüssel 12, 23, 35. 1818 ("*alboflavescens*"). *Echites laevigata* Moon, Cat. 20. 1824, nom. illeg. (incl. type of *Periploca alboflavescens* Dennst. 1818). *Parsonsia spiralis* Wall. ex G. Don, Gen. Syst. 4: 80. 1837. *Heligyne rheedei* Wight, Icon. 4(2): 3, t. 1303. 1848 ("*rheedii*"), nom. illeg. (incl. type of *Periploca alboflavescens* Dennst. 1818). *Parsonsia laevigata* Alston, Ann. Roy. Bot. Gard. Peradeniya 11: 203. 1929, nom. illeg. (incl. type of *Periploca alboflavescens* Dennst. 1818); Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 58. 1983 [APOCYNACEAE].

Kudici-kodi Rheede, Hort. Malab. 9: 13, t. 9. 1689.

The name Kurichikodi [Malayalam script on t. 9] is not in use now; kurichi means hill country; and kodi means twig. Today it is called Valiyapalvalli; valiya means large and palvalli refers to a climber (valli) with milky (pal is milk) sap. It occurs along the coast and in the uplands of Malabar.

Wallia-pal-valli

FIG. 10



Wallia-Pal-Valli, is the same plant as the preceding, differing only in this that flowers are without stamens. Fruits are oblong, cuspidate, fitted with seeds which are anteriorly hairy, with silvery filaments.

(Its Uses)

The leaves mixed with fresh butter are used as ointment against boils.

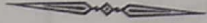
Parsonsia alboflavescens (Dennst.) Mabb., Taxon 26: 532. 1977; Manilal & Sivar., Fl. Calicut 163. 1982; Sivar. & Philip, Fl. Nilambur 416. 1997. - *Periploca alboflavescens* Dennst., Schlüssel 12, 23, 35. 1818 ("alboflavescens"). *Echites laevigata* Moon, Cat. 20. 1824, nom. illeg. (incl. type of *Periploca alboflavescens* Dennst. 1818). *Parsonsia spiralis* Wall. ex G. Don, Gen. Syst. 4: 80. 1837. *Heligyne rheedei* Wight, Icon. 4(2): 3, t. 1303. 1848 ("rheedii"), nom. illeg. (incl. type of *Periploca alboflavescens* Dennst. 1818). *Parsonsia laevigata* Alston, Ann. Roy. Bot. Gard. Peradeniya 11: 203. 1929, nom. illeg. (incl. type of *Periploca alboflavescens* Dennst. 1818); Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 58. 1983 [APOCYNACEAE].



Fig. 10

Wallia-pal-valli Rheede, Hort. Malab. 9: 15, t. 10. 1689.

The name Valiyapalvalli [Malayalam script on t. 10] is still used; valiya means large and palvalli refers to a climber (valli) with milky (pal means milk) sap.



K a t u - p a l - v a l l i

FIG. 11



ATU-PAL-VALLI is a plant binding itself with branches without tendrils, the shoot-lets are round, with glabrous, green bark, distinguished with swelling knots, the core is milky and viscous, so also the bark.

The leaves are opposite, decussate on flaccid, thick, light green petioles, striated on the inside with a furrow, are oblong-round, cuspidate at the top, with the margin curved towards the outside, thick, dense, solid and greatly soft in texture, with plain and glabrous surface, on the upper side of shady and shining greenness, on the lower of green-white greenness; of wild smell. The mid-rib stands out high on the lower side.

Flowers many clustered together are seen like fascicles, here and there surrounded by short, cuspidate leaflets, are five-petalled, oblong, narrow, cuspidate, light-green, a bit curled towards the outside, the centre gives out a theca shaped style made of as if five stylets, turned to the interspaces of petals, provided with a white head, and itself hides a green bud, a little compressed at the sides, in the middle striated by a suture through the top,

where it dehisces, is the germ of fruits. The five-leaved calyx tightly clasps the flower.

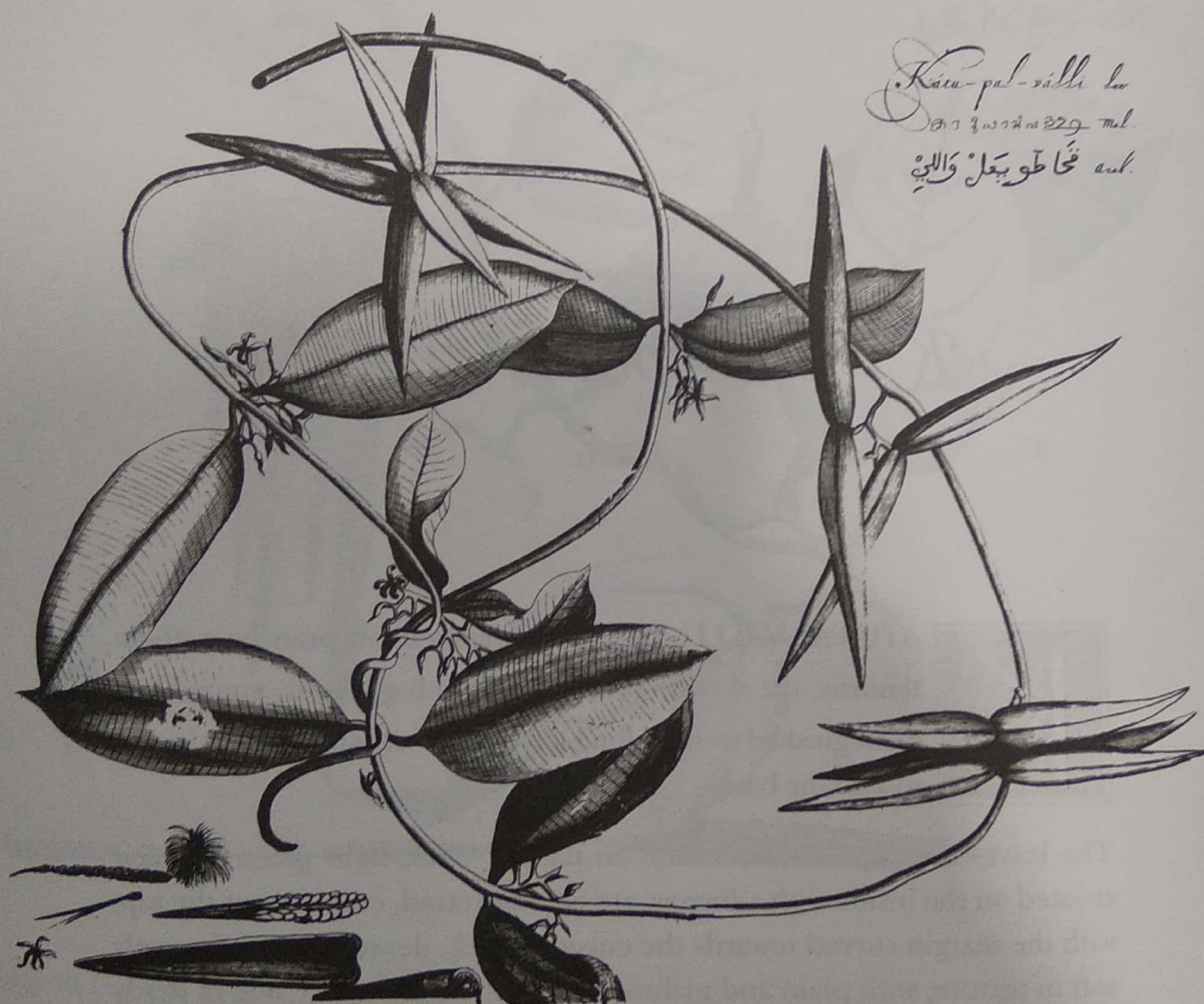


Fig. 11

The oblong buds, contracted (drawn) into a cone, with spirally rolled up leaves. Five fruits come out from one flower in a common calyx, are oblong straight, drawn into a tip, joined together at the base, the middle of which is marked with a furrow, with an outer rind very milky and green, with green-yellow cartilaginous inner cuticle, surrounded by green flesh of the seeds

arranged in the shape of a star; on the upper side provided with a silvery brush of very slender filaments, like silk linen, in the middle of the inner surface have a white and yellow suture; within the rind is hidden a white, quite slender kernel; then seeds are first green, then reddish.

(Its Uses)

This boiled in oil corrects the defects of eyes; the tumors of the feet, which the superstition of this people derives from the occult powers of incantation, are made to disappear, when the crushed leaves of this plant are applied to affected parts.

Cryptolepis buchananii R. Br. ex Roem. & Schult., Syst. Veg. 4: 409. 1819 ("*buchananii*"); Manilal & Sivar., Fl. Calicut 170. 1982; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 183. 1983; Manilal, Fl. Silent Valley 177. 1988; Sasidh. & Sivar., Fl. Thrissur 288. 1996. - *Nerium reticulatum* Roxb. [Hort. Beng. 19. 1814, nom. nud.], Fl. Ind. 2: 8. 1832. *Periploca viridiflora* Kostel., Allg. Med.-Pharm. Pl. 3: 1082. 1834 [ASCLEPIADACEAE].

Katu-pal-valli Rheede, Hort. Malab. 9: 17-18, t. 11. 1689.

The name Kattupalvalli [Malayalam script on t. 11] is still used; kattu means wild and palvalli refers to climbers (valli) with milky (pal) sap. It occurs throughout Malabar.



Pal-valli

FIG. 12



PAL-VALLI is a climbing plant, whose stalks are slender, round, woody, knotted, with a saffron-red bark.

Leaves arise in pairs in the nodes, are oblong-round, anteriorly with an obtuse tip, thick, of shady and shining greenness on one side, of bright greenness on the other. The mid-rib along with lateral ones stand out on the lower side.

Flowers are seen in racemes at the origin of leaves, somewhat hairy, are five petalled, narrow, on the inside light greenness on the outside reddish, with a white neck, in the lower orifice of which appears a globule, equipped with a short style at the top. Fruits are produced in pairs from each flower, are rigid, oblong, narrow, a bit smooth, saffron-red, on one side somewhat green; within the slender cartilaginous rind are enclosed the oblong lean, white seeds marked with a furrow, and there filled with green flesh, anteriorly provided with a silvery brush of stamens.



Fig. 12

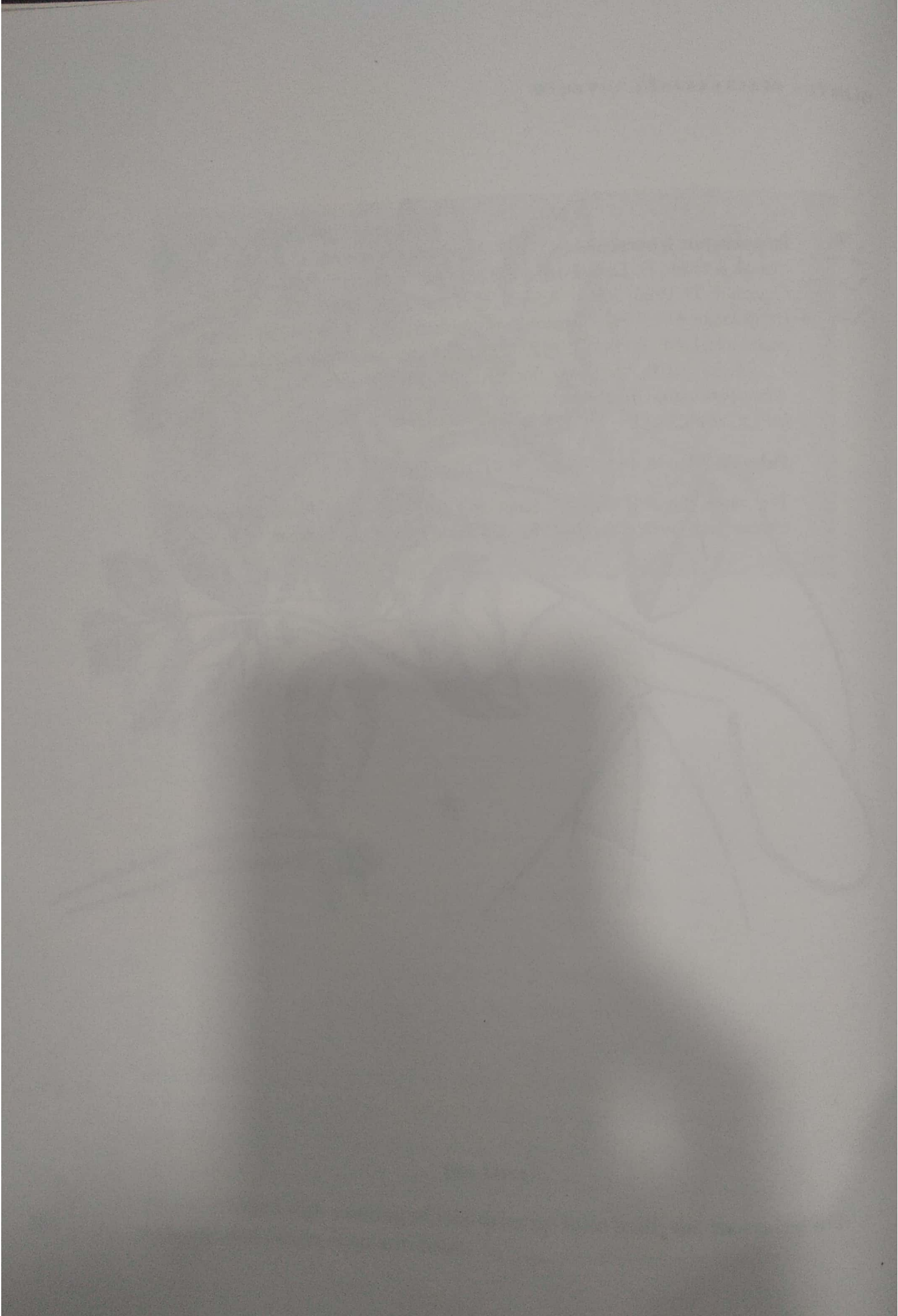
(Its Uses)

Leaves crushed with washing of rice dries up little boils; the root taken with coriander and Ginger is an anti fever.

Ichnocarpus frutescens (L.) W. T. Aiton, Hort. Kew. ed. 2, 2: 69. 1811; Manilal & Sivar., Fl. Calicut 162. 1982; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 71. 1983; Sasidh. & Sivar., Fl. Thrissur 280. 1996; Sivar. & Philip, Fl. Nilambur 414. 1997. - *Apocynum frutescens* L., Sp. Pl. 213. 1753. *Echites malabarica* Lam., Encycl. 2: 342. 1786. *Periploca palvalli* Dennst., Schlüssel 12, 24, 35. 1818, nom. illeg. (incl. type of *Echites malabarica* Lam. 1786). *Chonemorpha malabarica* (Lam.) G. Don, Gen. t. 4: 76. 1837 [APOCYNACEAE].

Pal-valli Rheede, Hort. Malab. 9: 19, t. 12. 1689.

The name Palvalli [Malayalam script on t. 12] is still used. Palvalli means a climber (valli) with milky (pal) sap. It is found throughout Malabar.





Nansjera-patsja

FIG. 13



NANJERA-PATSJA, Brahmins call *Dadu-Valli*, grows in sandy soils. Root white, fibrous, inside with woody filament, of weak, displeasing smell. Stalks round, light green, glabrous, knotted, tender ones light saffron and hairy.

Leaves come out in pairs in nodes, the pedicels of which are thick, are oblong, drawn into a tip, thick, dense, soft, glabrous, of light green and shining colour on the upper side, of clear greenness on the lower, filled with limpid juice. The rib somewhat stands out on both sides.

Flowers adhere to the nodes in fascicles, are five petalled, oblong, cuspidate, light green, which turn red from rose towards the claws, in the middle is seen a round head, windowed (with an opening), forged from the style, with five cuspidate, veiny, thick rose-red leaflets, rigidly bent towards the apex of the style, clasp with their tips. Buds quite round, a bit cuspidate and reddish. Calyx consists of five leaves.

Fruits come out in pairs from a single flower, are oblong, narrow, drawn into a tip (point) green and placed cross-wise to the base; they contain in themselves

numerous, plain seeds arranged in the manner of a shield, anteriorly enclosing a silvery brush.



Fig. 13

(Its Uses)

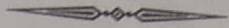
The whole of this plant with the water of *Lanjae* (tender coconut) expels poison through vomiting; it gives the same effect if is smeared with real sandal wood, egg and woman's milk on the temples and chest. Crushed with the root of *Car-Elu-vegon* and the boiled root of rice and smeared on the wounded part renders the bite of rabid cat, ineffective. The seed mixed with *Codagen*, *Manga-Nari*, *Carinta-Tali* and sandal wood and smeared on the temples checks the powers of poison. Taken with the flowers of wild palm, *Coluppa* and

Samstru-vari, with the milk of women, is quite an alexipharmic (antidote to poison/ obviating effect of poison) medicine. If boiled with the root of *Angolam*, *Tiru-tali* and *Amel Podi* in cow's milk and smeared on head and chest, takes away internal poison and the *syncope* originated from it and the burning of bowels, so that the power of this plant is wholly "sitalexix".

Tylophora indica (N. Burm.) Merr., Philipp. J. Sci. 19: 373. 1921; Manilal & Sivar., Fl. Calicut 169. 1982; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 91. 1983; Sasidh. & Sivar., Fl. Thrissur 293. 1996. - *Cynanchum indicum* N. Burm., Fl. Ind. 70. 1768. *Asclepias asthmatica* L.f., Suppl. Pl. 171. 1782. *Asclepias prolifera* Ainslie, Materia Indica 2: 225. 1826 (cf. Mabb., Taxon 26: 536. 1977). *Tylophora asthmatica* (L.f.) Wight & Am. in Wight, Contrib. Bot. India 51. 1834 [ASCLEPIADACEAE].

Nansjera-patsja Rheede, Hort. Malab. 9: 21-22, t. 13. 1689.

The name Nancharapacha [Malayalam script on t. 13] is not used now; nanchara means irrigated ground and pacha refers to succulents. Today it is called Vallipala; valli means climber, pala means plant with milky sap; It is very common along coastal regions of Malabar, especially near seasonally waterlogged and abandoned fields.



K a m e t t i - v a l l i

FIG. 14



AMETTI-VALLI, in the language of the Brahmins *Ulu-Valli*, is a plant growing in sandy soils and rolling itself round trees by means of sinuous branches; the other species of which is *Tsjera Cametti-Valli*.

Root short, thick, woody inside, covered with fibres, spreading very many lateral branches. The stem thick towards the root, with ash-coloured bark, branches slender, knotted, with dark-saffron-red bark, and are slightly milky.

Leaves come out in twos or threes in the nodes of branches, are oblong round, with oblong-narrow tip, turned towards the outside, are dense, thick, soft, milky, plain, glabrous, of shining greenness on the upper-surface. The mid-rib stands out on the lower side, dark red, on the upper side slightly pronounced, green, whitish.

Flowers are seen in umbels at the tips of shoots with their own red pedicels, are five-petalled, oblong-narrow, cuspidate, of white colour inside, on the outside reddish, with a small oblong red neck, bulging out around the middle; in it are contained very short stamens, provided with five yellow, oblong,

striated, cuspidate, erect apices, style slender, green-white. Calyx small, green, tightly clasping the neck of the flowers, with five tips. Buds oblong-round, anteriorly the neck of the flowers with five tips. Buds oblong-round, anteriorly somewhat narrow, first green and then turning reddish.

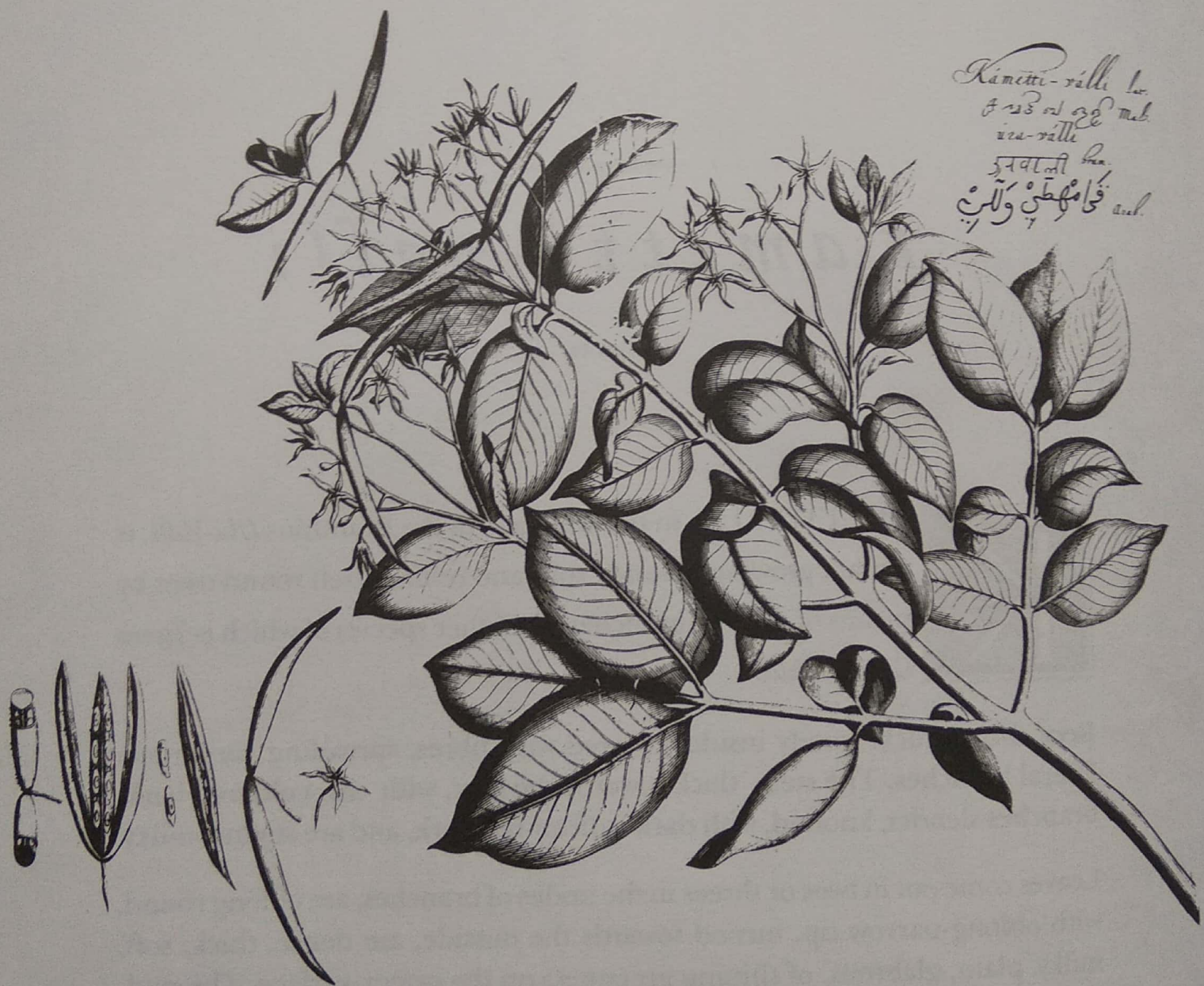


Fig. 14

Pods arise in twos from each flower mutually connected on the lower part, oblong-narrow, anteriorly more narrow, striated in length with veins: first round and erect, then pressed to the sides, outer rind turning reddish, inside with a light red, white rind. In these is contained a thick filament, with cartilaginous rind, with a green, humid dark core, on the outside covered

with thin dark red membrane. In it are seen very smooth, slender oblong-round, seeds surrounded by a thin membrane and a transparent flap, in each pod, six in number, first green, with whitish flaps then with flaps turning reddish.

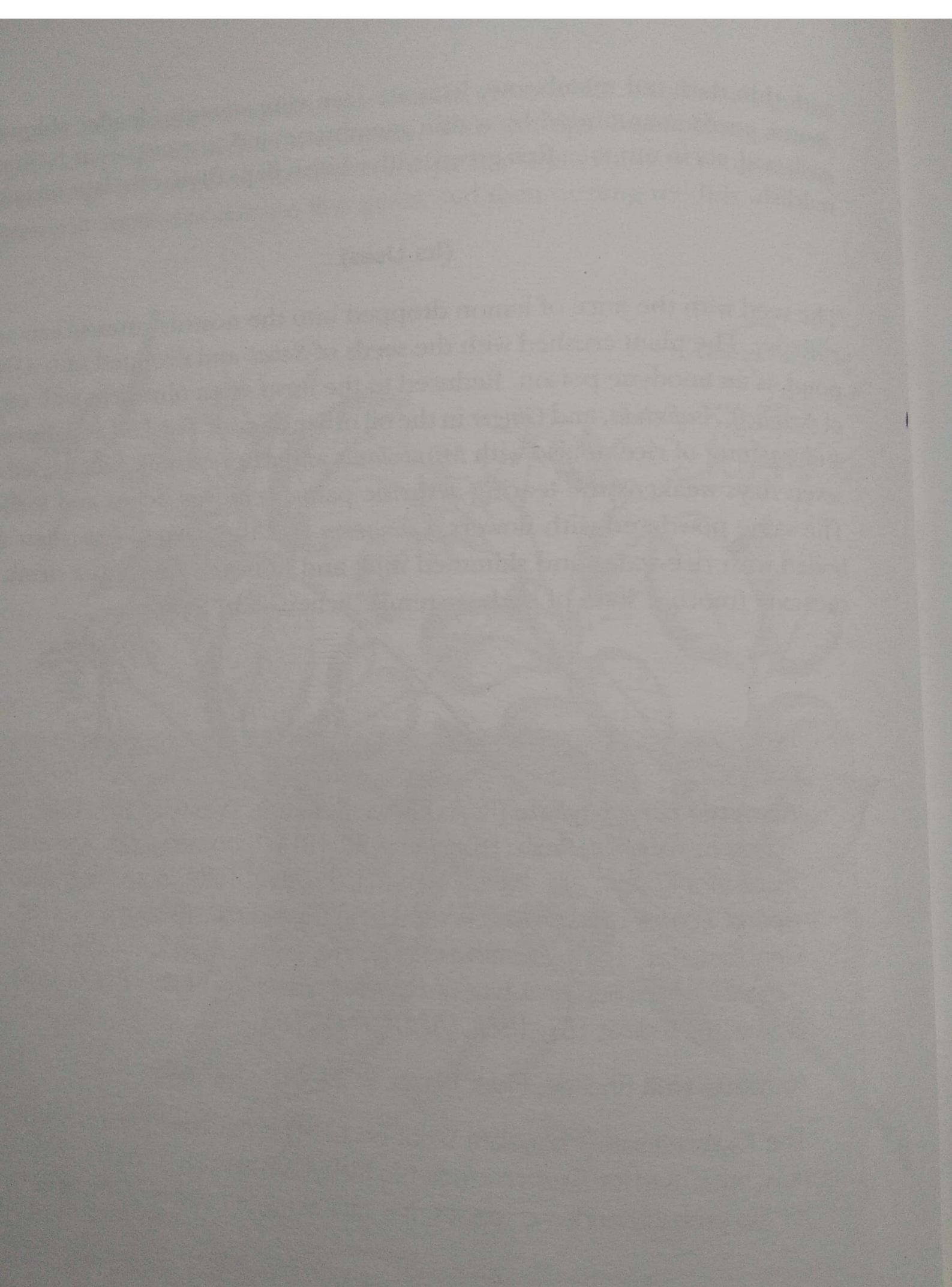
(Its Uses)

The seed with the juice of lemon dropped into the nostrils cures spasm and epilepsy. The plant crushed with the seeds of *Sabac* and dropped into a fish-pond, is an anodyne poison. Reduced to the form of an ointment with seeds of *Avanacu*, *Asafoetida*, and *Ginger* in the oil of *Sergelim*, or *Tzit-Elu*, and *Avanacu*, and washing of rice or also with *Mirabolanis* and whey of milk, when used for seven days weakens the tearing arthritic pains, removes itches and scabies. The same powdered with flowers, *Cinnamon* and the bark of *Cynoglosse* and boiled with rice-water and skimmed milk and honey, is taken as a drink for cachexia (morbid state of body system), "lichen" and leprosy.

Kamettia caryophyllata (Roxb.) Nicol. & Suresh, Taxon 35: 354. 1986. - *Echites caryophyllata* Roxb., Hort. Beng. 20. 1814 ("coryophyllata"). *Kamettia malabarica* Kostel., Allg. Med.-Pharm. Fl. 3: 1062. 1834, nom. illeg. (incl. type of *Echites caryophyllata* Roxb. 1814). *Aganosma roxburghii* G. Don, Gen. Syst. 4: 7. 1837. *Ellertonia rheedei* Wight, Icon. 4(2): 2, t. 1295. 1848 ("rheedi"), nom. illeg. (incl. type of *Echites caryophyllata* Roxb. 1814); Manilal & Sivar., Fl. Calicut 162. 1982. [APOCYNACEAE].

Kametti-valli Rheede, Hort. Malab. 9: 23-24, t. 14. 1689.

The Kammettiballi [Malayalam script on t. 14] is not used for this species now, but is used for *Derris triphylla*. No Malayalam name is currently available for this probably endemic species. It is rare along the coasts of Malabar.





W a t t a - k a k a - c o d i

FIG. 15



ATTA-KAKACODI is a plant binding itself and enjoying sandy soil, has the root whose inner bark is white, outer turns yellow, is of very bitter taste. The stalks swelling at nodes are first green, and then ash-coloured.

Leaves come out two by two from nodes, the petioles of which are moderate, round, light-green, striated on the inside, oblong-round, towards the petiole very much curved, soft in texture, with plain, glabrous, smooth, dark-green surface, of light bitter taste. The mid rib gives out many lateral ones.

Flowers arise in umbels on common, light green petioles, coming out from the nodes of stalks above the origin of flowers, the peduncles from which they hang are slender, light green, the flowers themselves are five petalled, light green, anteriorly somewhat narrow; of no smell. In the middle is seen a five cornered, light green, plain star, formed from five styles around, of the common column. The calyx consists of five small, green, cuspidate leaflets. The buds are plain light green, with the leaves rolled upon themselves on the upper part and narrow around the middle.

The fruits hang from milky shoots or petioles and are oblong round, narrow towards the top, in twos in the inner part mutually joined together, striated in length by deep lyris green-yellow, sprinkled with a yellow powder in lyris, the bark is rather thick and milky: flesh a little spongy, white; the inner



Fig. 15

membrane cartilaginous, white, light yellow. In there are contained very smooth, oblong-round, from green to light yellow, seeds surrounded by yellow-reddish fringe, joined together mutually and closely in the form of a shield, they have on the anterior part an eye which sends out a small brush, the filaments of which are silvery.

(Its Uses)

The root with rice-water applied to the part, renders ineffective the sting of female cobra. The bark of the root crushed and taken with water, helps in head-ache, to which women after delivery are obnoxious.

Wattakaka volubilis (L.f.) Stapf, Bot. Mag. 148: sub t. 8976. 1923; Manilal & Sivar., Fl. Calicut 170. 1982; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 108. 1983; Manilal, Fl. Silent Valley 180. 1988; Sasidh. & Sivar., Fl. Thrissur 294. 1996. - *Asclepias volubilis* L.f., Suppl. Pl. 170. 1782. *Apocynum tiliifolium* Lam., Encycl. 214. 1783 ("*tiliaefolium*"). *Hoya viridiflora* R. Br., Mem. Wern. Nat. Hist. Soc. 1: 27. 1811, nom. illeg. (incl. type of *Asclepias volubilis* L.f. 1782). *Wattakaka viridiflora* Hassk., Flora 40: 99. 1857, nom. illeg. (incl. type of *Asclepias volubilis* L.f. 1782). *Dregea volubilis* (L.f.) Benth. ex J. Hook., Fl. Brit. India 4: 46. 1883. *Marsdenia volubilis* (L.f.) Cooke, Fl. Pres. Bombay 2: 166. 1904 [ASCLEPIADACEAE].

Watta-kaka-kodi Rheede, Hort. Malab. 9: 25-26, t. 15. 1689.

The name Vattakakkakodi [Malayalam script on t. 15] is still used; vatta refers to the round leaves, kakka means crow, and kodi means twig. It occurs throughout Malabar.

Dear Sir,
I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the matter of the 1st inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

Yours faithfully,
J. B. Smith

I am, Sir, very respectfully,
Your obedient servant,
J. B. Smith



Njota-njodem-valli

FIG. 16



JOTA-NJODEM-VALLI, in the language of the Brahmins *Zira-Puti-Valli*, is a species of *Inota-Inodien*, a plant binding itself to trees with sinuous stalks: those stalks however are slender, round, green, partly reddish, knotted.

Leaves arise in pairs in nodes, are oblong-narrow, round towards the petiole, anteriorly narrowed to a tip, dense in texture, solid, soft, with both the surfaces plain, glabrous. The mid-rib stands out on the lower side.

Flowers many clustered together, are seen on common green petiole, like a crown, with an oblong, red, purple dark, shining neck, on the lower side with a swollen vesicle-like white venter towards the calyx, striated in length with red, purple dark veins in the center and the neck, are five petalled, from yellow light green, with margins curved towards the outside, cuspidate; which tips are oblong, red-dark purple and hairy, (which) mutually joined together at the top, with openings among the leaves and their tips; on the inside beset sparsely with oblong, loose hairs: without smell. In the middle of the venter they have a yellow head, five cornered, expanded in the form of a star, from

whose top, an oblong, yellow, theca-shaped style, which is split into five
stamens. The calyx has five cuspidate leaves; when the vesicular venter of
the flowers is broken by pressing, air is expelled with sound.



Fig. 16

Fruits are oblong-narrow pods; in these are contained oblong seeds, arranged
in one series, at the top formed into a brush by means of white, silvery
filaments.

(Its Uses)

The leaves of this and of *Kari-Bepu*, *Ela-Calli*, *Bala*, and *Mirobolan* crushed and tied into a nodule, which is warmed in rice-water and applied to the affected place, diminishes the swelling of the stomach from gas or if are boiled with fibres of the leaves of *Tamarind* and with the bark of *Muringu* in *muria* give an ointment against gout of limbs.

Ceropegia candelabrum L., Sp. Pl. 211. 1753; Manilal & Sivar., Fl. Calicut 169. 1982; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 120. 1983; Manilal, Fl. Silent Valley 176. 1988; Sasidh. & Sivar., Fl. Thrissur 286. 1996; Sivar. & Philip, Fl. Nilambur 424. 1997. - *Ceropegia biflora* L., Sp. Pl. 211. 1753 [ASCLEPIADACEAE].

Njota-njodien-valli Rheede, Hort. Malab. 9: 27-28, t. 16. 1689.

The name Njotanjodiyavalli [Malayalam script on t. 16] is used in the shortened form Njotavalli; njota refers to swollen structures (as the fruiting calyx of *Physalis* or basal portion of *Ceropegia*), njodiyen means to snap (as "cracking" the finger joints), and valli means climber. It occurs throughout Malabar along forest margins but rarely in the coastal areas.



Parparam

FIG. 17



S a small plant growing in humid and rocky places. Stalks are slender, round, knotted, green.

Leaves arise in the nodes on short white peduncles, on the inside a bit hairy, are small, oblong-narrow, cuspidate, more broad towards the petiole, with a round margin, thick, soft in texture, with smooth surface, of strong greenness on the upper surface, the mid-rib is white, standing out on the lower side, marking (striating) the upper surface.

Flowers arise many clustered together on petioles, which come out at the origin of leaves and are small, four petalled, cuspidate, of purple-red colour, which are clasped (received) by a calyx of five minute leaves.

The seed-bearing capsules are podded, oblong-round, anteriorily drawn into a tip, two lateral ones are convex, of which one is more contained in there are oblong, slender, smooth, with one side hollow, so arranged that the inner margin with tips (teeth) anteriorily more narrow and in that part, with brushed white threads, with a middle, common, thick, fleshy filament connected to the white one, first white, then reddish.

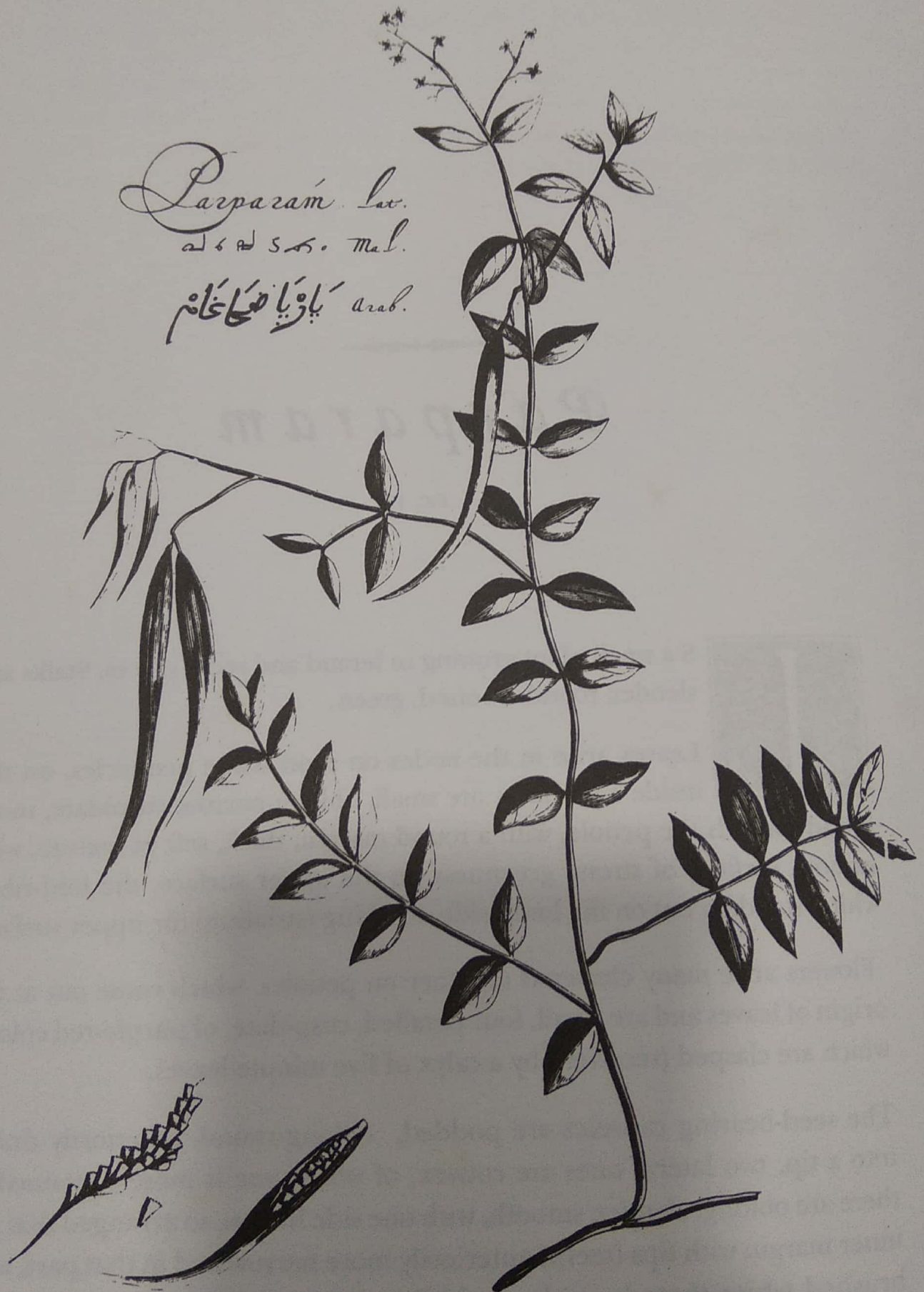


Fig. 17

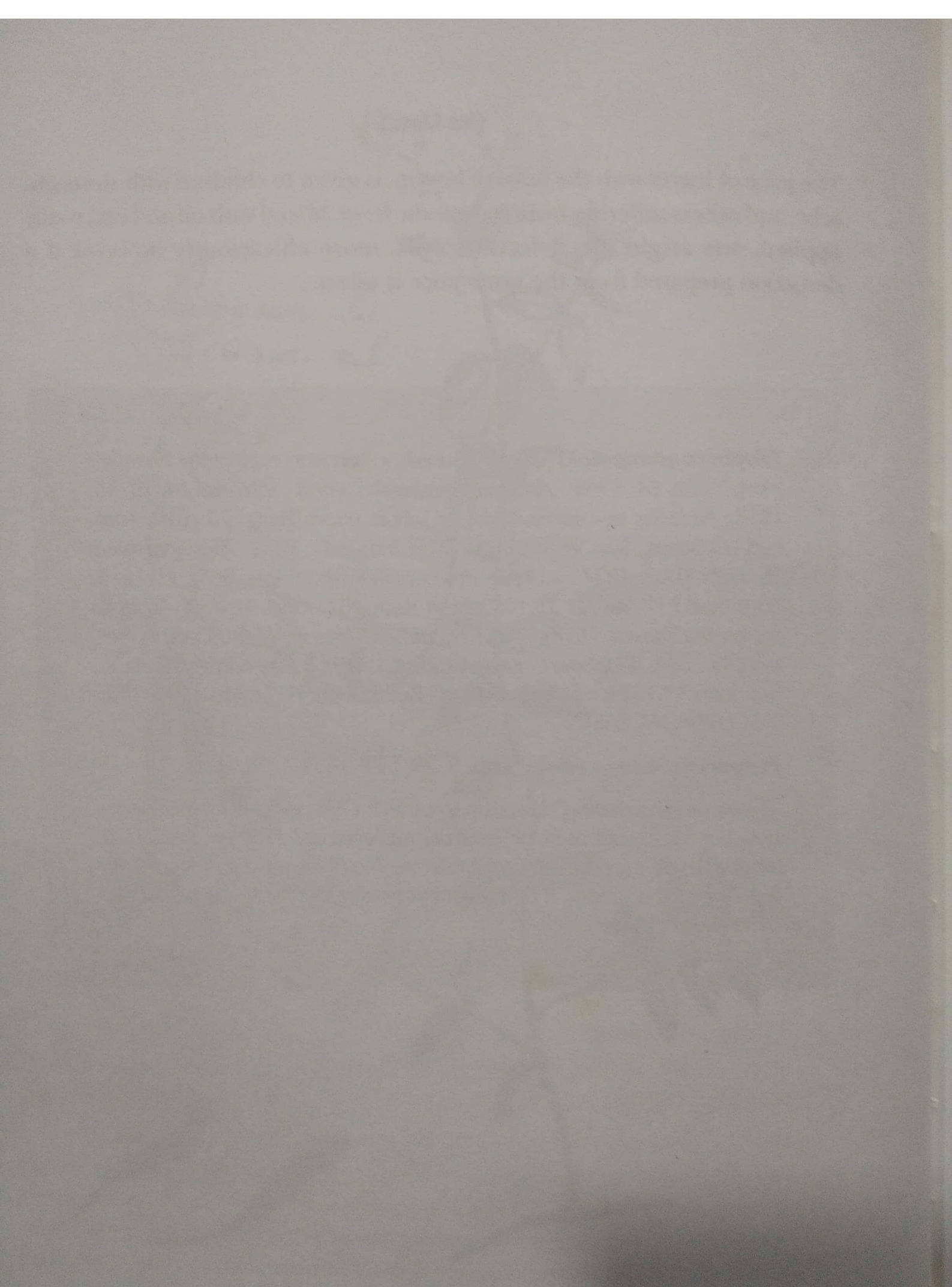
(Its Uses)

The juice of leaves with the juice of lemon, is given to children with stomach-ache, and others suffering from spasmodic fever. Mixed with oil and externally applied, sets aright the defects of eyes, more efficaciously however if a decoction prepared from the same juice is taken.

Tylophora tetrapetala (Dennst.) Suresh, in Nicolson *et al*, Interp. Rheede's Hort. Malab. 64. 1988. -*Asclepias tetrapetala* Dennst., Schlüssel 14, 18, 35. 1818. *Asclepias tenuissima* Roxb. ex Schult. (Hort. Beng. 20. 1814, nom. nud.] ex Schult., Syst. Veg. 6: 86. 1820; Fl. Ind. 2: 41. 1832. *Tylophora tenuis* Bl., Bijdr. 1062. 1827. *Asclepias microphylla* Roxb., (Hort. Beng. 85. 1814, nom. nud.] Fl. Ind. 2: 35. 1832, non Roth 1821 (incl. type of *Asclepias tetrapetala* Dennst. 1818). *Tylophora carnea* Wall. ex Wight, Contrib. Bot. India 49. 1834. *Tylophora tenuissima* (Schult.) Wight & Arn. in Wight, Contrib. Bot. India 49. 1834; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 96. 1983 [ASCLEPIADACEAE].

Parparam Rheede, Hort. Malab. 9: 29, t. 17. 1689.

The name Parpadakam [Malayalam script on t. 17] is not used for this species now but is currently used for *Hedyotis herbacea* and *Mollugo pentaphylla*, all of which have some superficial similarities. No Malayalam name is currently available for this species. It is very common along the coasts and backwaters of southern Malabar.





Neli-tali

FIG. 18



ELI-TALI; in the language of the Brahmins *Nalabi*, grows in shores of swamps, and often among rice and hence the name. The root fibrous, thickly hairy, with spongy, dense, soft, light, white flesh, with a core not dissimilar to a feather and in tender fibres covered with a yellow skin and with yellowish hairs. The stalks are round, glabrous, green inside wholly with whitish spongy flesh; the tender ones turn reddish from one side.

Leaves are attached to a middle round, dark green petiole, which is swollen at the origin because of a light green venter, and is at times accompanied by only one new shoot, in close (thick) order in two opposite series and are very small, oblong-round, on the outside striated in the middle with a vein, of dark greenness, with grass-greenness at one part of the margin, when are tender turn reddish, it is worth of admiration that if the leaves are drawn together a bit tightly, immediately they close mutually in two opposite series in the form of a shield, so also in the shoots pulled out with roots or plucked away.

Flowers are seen in slender peduncles at the origin of the petioles of leaves, are papilionaceous, small, yellow, four-petalled: the outer light leaflet turns greatly red towards the inside, turning yellow towards the more broad leaf,

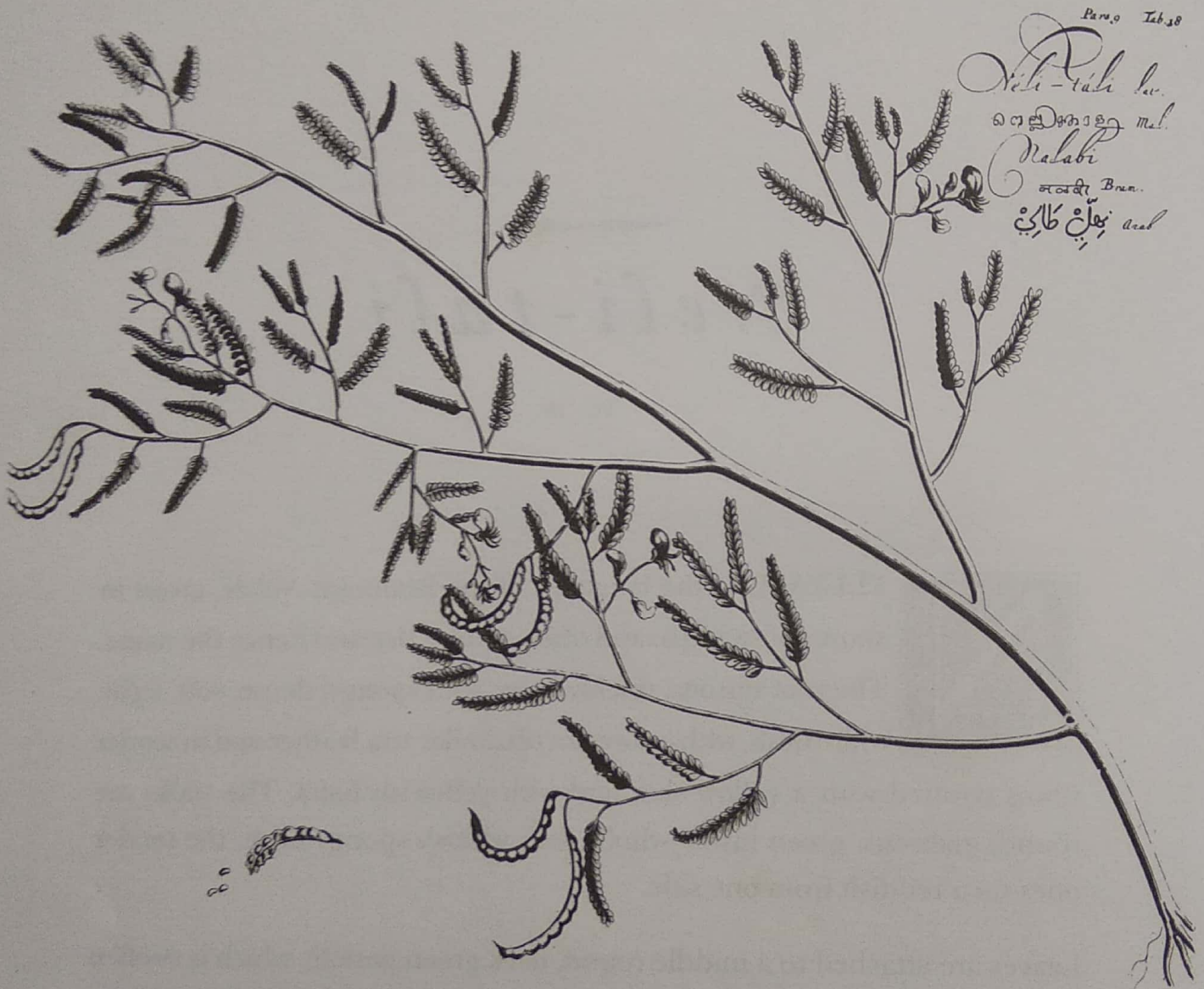


Fig. 18

turning reddish, with a mouth open upwards, enclosing ten green-white stamens, provided with yellow heads; of no smell. The calyx has four green leaflets.

The pods are oblong, plain, a bit bent, with a rind first green, then dark red and rough. The seeds which bulge out through the rind, are small oblong

beans, of the taste of beans, placed in their own locules in the length of the pods, separated (marked) with inter-mediary sutures, bulging out in the rind, the colour is dark red and shining.

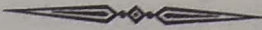
(Its Uses)

A bath is prepared from this, which is against wounds.

Aeschynomene indica L., Sp. Pl. 713. 1753; Rudd, Reinwardtia 5: 30. 1959; Manilal & Sivar., Fl. Calicut 84. 1982. -*Hedysarum neli-tali* Roxb., Hort. Beng. 57. 1814 [FABACEAE].

Neli-tali Rheede, Hort. Malab. 9: 31-32, t. 18. 1689.

The name Nellithali [Malayalam script on t. 18] is still used. Nelli is from nellu (paddy] and thaali refers to mucilage producing plants. The reference is to its common occurrence in paddy fields, among rice plants. It occurs along the coasts of Malabar.



Toddā-vaddi

FIG. 19



HERE are two species of *Toddā-Vaddi*, one of its name, the other *Niti-Toddā-Vaddi*, the former is called *Lacheri* by the Brahmins; is a small, low plant enjoying shady and watery soil, always flowering.

The white root is drawn (contracted) into annular nodes towards one side, the rest fibrous. The stalk creeps over the ground by its lower part, giving out fibres here and there; on the upper side is erect, round, bright-green, on one side wrinkled into annular furrows; inside aqueous and green; bulging out into nodules.

The leaves arise two by two in an orderly fashion, on green, slender shootlets, or also on totally reddish and slightly hairy ones, which come out in all directions nine, ten or more or less from each node of the stalk, spreading themselves down obliquely here and there towards the ground, shooting up from a thick tuber towards the base: and these leaves are small, oblong-narrow, of almost uniform width, anteriorly round, smaller towards the middle petiole, so also in the apex, on both sides dark green. In the middle is vein,

standing out with the tip (apex) which leaf is divided into two unequal sides;
are closed from touch.

Tóo-da-váodi-lá
 കൊടവോടി മല.
 طوقى وادى arab.
 തുട്ടമാട്ടു brom.

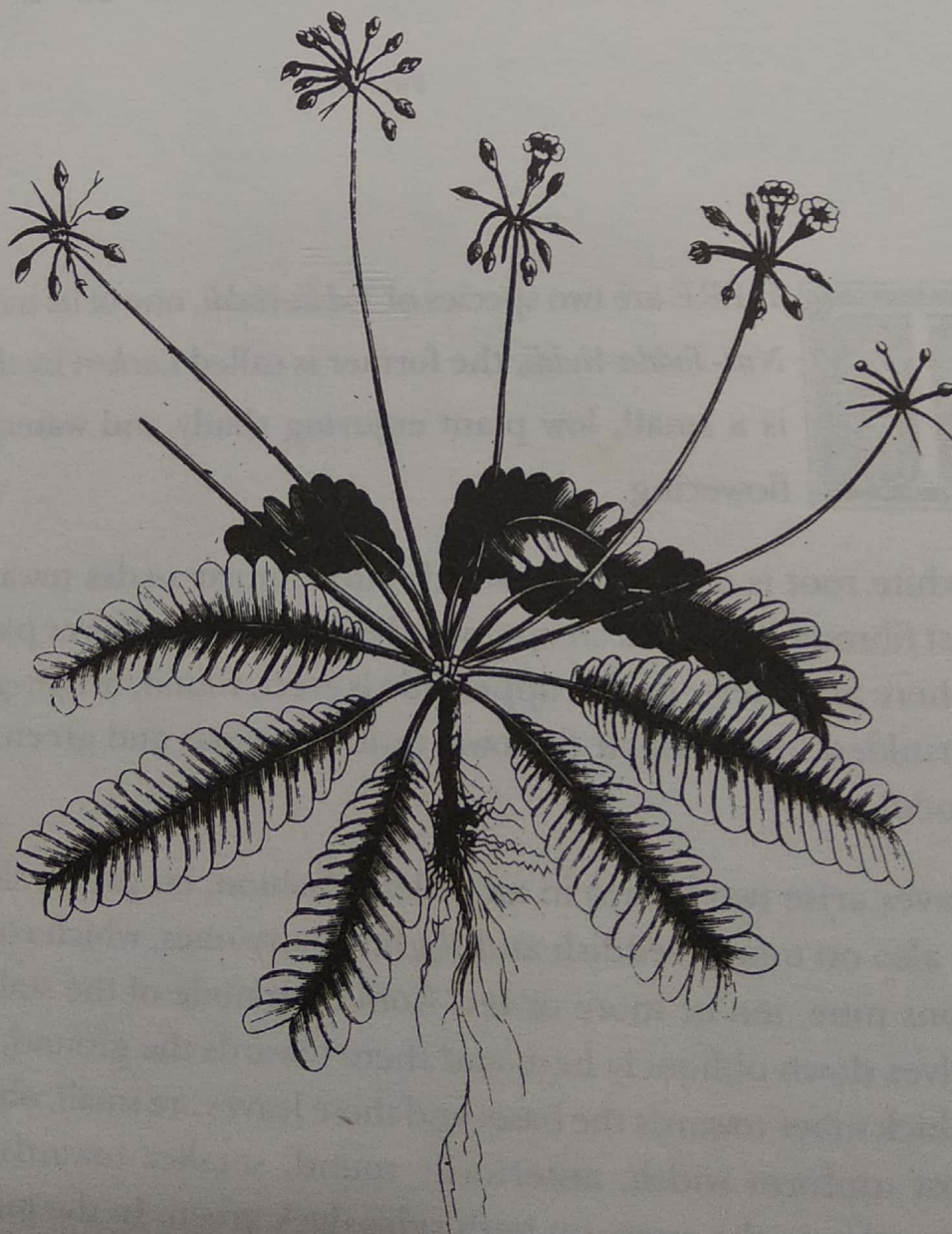


Fig. 19

Flowers arise eight, ten, more, less from the same node of the stalk on their own erect, foliaceous petioles, and also lower down swell up towards the origin, are seen many clustered together, and hanging in all directions from white or light green pedicels, and are bell shaped, five petalled, or also four petalled, the petals themselves are yellow, in the middle striated in length with a red ray, somewhat white in the neck, and striated in length by red veins, are of light green colour at the bottom: of no smell: are closed tightly towards the evening and the whole night. Have more or less ten, short, slender, white, stamens, the apices of which are also white, the stalks is small, hairy, green, of five corners and of cuspidate leaves. In the calyx are seen seed-bearing, oblong, hairy buds with five sides, each side of which is striated with a dark green rib, separated into two locules, each of which contains one seed.

These seeds are small, oblong-round, like large pearls first white, then red, and finally red-yellow and shining.

(Its Uses)

Crushed and placed over wounds, heals them and with butter heals apostemata (boils), crushed with the oil of *Sergelim* and drunk, resists gonorrhoea; the root given in decoction dissolves (breaks?) stones.

Biophytum candolleanum Wight, Ill. Ind. Bot. 1: 162. t. 62. f. 1-8. 1840 ("candolianum"); Sivar. & Philip, Fl. Nilambur 113. 1997. -*Biophytum sensitivum* var. *candolleanum* (Wight) J. Hook. & Edgew. in J. Hook., Fl. Brit. India 1: 437. 1874; Manilal, Fl. Silent Valley 38. 1988 [OXALIDACEAE].

Todda-vaddi Rheede, Hort. Malab. 9: 33-34, t. 19. 1689.

The name Thottavaadi [Malayalam script on t. 19] is not used now for this species but is used for *Mimosa pudica*; thottal (from thoduka) means when touched and vaddi means that which wilts. Today it is called Mukkutti, a reference to the similarity of the flowers to a nose (mukku) stud (kutthi). It is very common throughout Malabar.

Niti-todda-vaddi

FIG. 20



THE second species, is called in the language of the Brahmins *Lauri*, grows in sweet water, with the stalks swimming in water, always flowering, chiefly during the rainy season.

Roots arise from stalks from here and there in an orderly fashion, in the greater part from the bendings and are thick and short fascicle (bands) made of slender fibres pressed close together and mutually intertwined fibres, of red colour. The stalks in water are round, hard, bright-green, but those exposed to sun are purple, inside spongy and white fistular, woody towards the bark, alternately bent at corners to opposite parts, very near to the bendings spongy, humid, covered by a white sheath.

Leaves arise two by two in middle petioles bulging out at the origin and turning reddish, narrow-oblong in shape, not so broad as those of *Toadda-Vaddi*, at the tip a little round, uniform in width, soft, slender, plain and very smooth, of glass-green colour, have on the lower side a thin vein, somewhat standing out towards its origin, the leaf dividing into two unequal sides; these leaves are not in the same level on those of the first species, but obliquely cutting the middle petiole in different levels mutually parallel to each other

and lie somewhat bent towards the top, placed in such a way that when open, are turned to the water with the outer surface, are closed from touch, so also in the evening (and) during night.

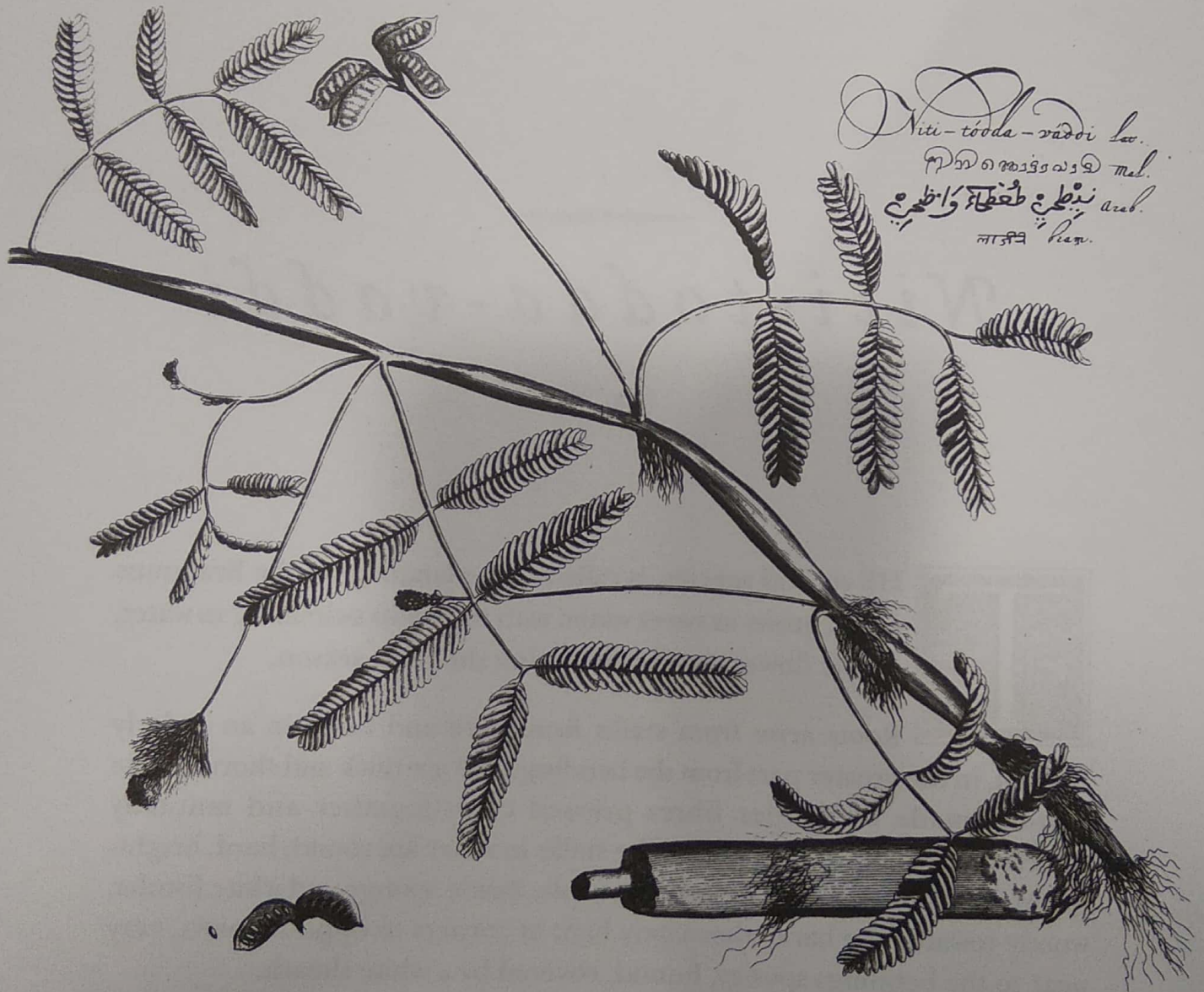


Fig. 20

Flowers arise in spikes and thickly in all directions, at the tip of their own petioles, which are rigid, round, somewhat bent, of light red colour and arise from the bendings of stalks either solitarily or with stalks; and the lower ones are of the many very oblong-narrow and curled leaves, on the whole of yellow colour, in the calyx giving out no stamen or germs of pods. The upper ones

are five petalled, green, cuspidate: these have ten long, white stamens with their yellow striated and obliquely erect apices; among those one filament juts out far, arising from a podded green sprout in the centre of the flower.

Small, plain, compressed and somewhat sickle-shaped pods are seen more or less six or seven at the tip of the shoots, situated transversely to the stalk, first green, then of liver red colour, finally turning dark. The seeds that are contained in these, eight, nine or less according to the size of the pod, mutually very near to themselves, separated by no partition wall, of dark-red-shining colour, towards the margin more dark and more shining.

(Its Uses)

Given in decoction, strengthens the stomach, promotes urine in fevers and relieves the pain of arthritis; crushed with butter ripens apostemata (boils).

Neptunia prostrata (Lam.) Baill., Bull. Soc. Linn. Paris 1: 356. 1883; Merr., Trans. Amer. Philos. Soc. new ser., 24(2): 187. 1935. -*Mimosa prostrata* Lam., Encycl. 1: 10. 1783. *Neptunia oleracea* Lour., Fl. Cochinch., 654. 1790; Kosterm. in Dassan., Rev. Handb. Fl. Ceylon 1: 460. 1980. *Mimosa natans* sensu auct., non L.f. 1782: Vahl, Symb. 3: 102. 1794; Roxb., Pl. Corom. 2: 11, t. 119. 1799. *Desmanthus natans* Willd., Sp. Pl. 4(2): 1044. 1806, nom. illeg. (incl. type of *Neptunia oleracea* Lour. 1790). *Neptunia natans* Theob. in Mason, Burma 2: 541. 1883, nom. illeg. (incl. type of *Neptunia oleracea* Lour. 1790) [FABACEAE].

Niti-todda-vaddi Rheede, Hort. Malab. 9: 35-36, t. 20. 1689.

The name Neettithottavadi [Malayalam script on t. 20] may still be used for this species but has not yet been confirmed. Neeti [meaning steeped in water] refers to the aquatic habitat and thottavadi refers to its sensitivity, i.e., wilting on touch, as explained under *Biophytum candolleanum* (Rheede 9: t. 19). It has been reported in the Palghat region of Malabar.

The second part of the document describes the various methods used to collect and analyze data. It includes a detailed discussion of the different types of data that are collected, such as financial data, operational data, and customer data. It also explains how this data is analyzed to identify trends, patterns, and areas for improvement.

The third part of the document focuses on the implementation of the proposed changes. It provides a step-by-step guide to the implementation process, including the identification of key stakeholders, the development of a communication plan, and the execution of the changes. It also includes a section on monitoring and evaluating the results of the implementation.

Conclusion

In conclusion, the document highlights the importance of maintaining accurate records and the need for a systematic approach to data collection and analysis. It also emphasizes the importance of proper implementation and monitoring of changes to ensure the success of the project.

Malam-toddā-vaddi

FIG. 21



LS a small plant growing in rocky soils, with the stalks spread over the earth. The root is red, fibrous, oblong, sending itself into the soil directly. The stalks are slender, round, woody, with the upper sides where are exposed to the earth, turning reddish, the lower ones green.

The leaves come out in pairs, on common, short petioles, somewhat swollen at the origin, and guided below by a small, narrow, green, cuspidate leaflet, in two series, in each more or less eight, nine, are small, oblong-narrow, very thin, of green colour on one side, on the other dark; have a rib anteriorly standing out, dividing the leaf in an oblique line; when touched they close, but not so quickly as those of *Toddā-Vaddi*; and they lie in such an order that they mutually lie near with their lower sides.

(Its Uses)

The superstition of the people attributes to this plant occult powers namely (if it is proper to believe) to restore the lost virginity, to procure the love of women, if the “sanguisuga” is applied to saturation to the left foot of the

intended virgin and if teased into pieces and crushed with this plant, is given or also if the mixture is rubbed with the hand of the desired woman. Mixed with *curcuma* (turmeric) and camphor heals impetigo (a skin disease characterised by thick-set clusters of pustules).

Malam-Tódá-ráddi L.

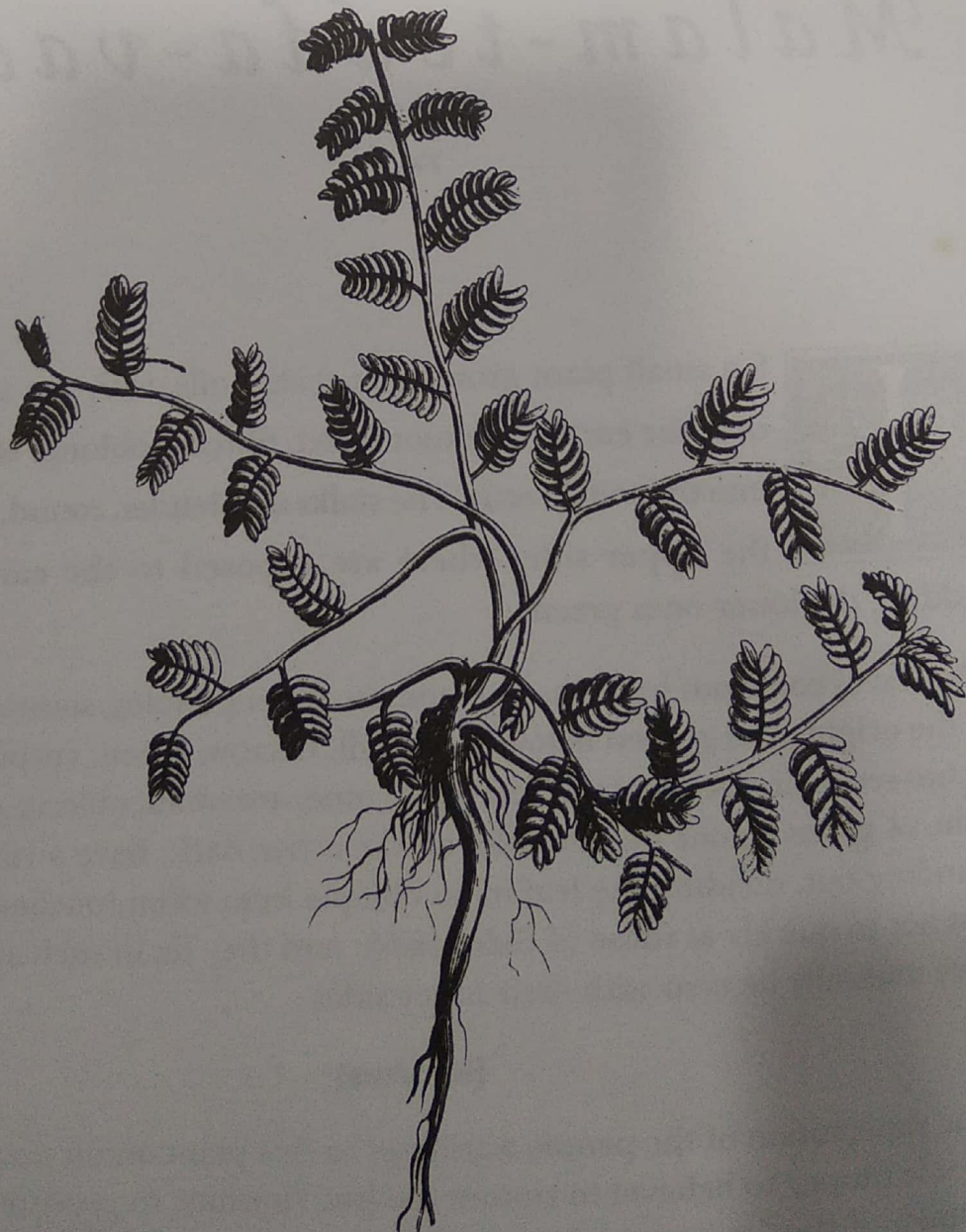
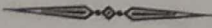


Fig. 21

Cassia kleinii Wight & Arn., Prodr. 293. 1834; Manilal & Sivar., Fl. Calicut 95. 1982 [FABACEAE] .

Malam-todda-vadi Rheede, Hort. Malab. 9: 37, t. 21. 1689.

The name Malamthottavadi [no Malayalam script given on t. 21] is not used; Malam is from the word Mala [meaning mountain, referring to its habit, preferring rocky regions) and thottalvadi means that which is wilting on touch. No Malayalam name is known for this plant now. It occurs throughout Malabar.



Man-todda-vaddi

FIG. 22



ROWS in sandy soils. Root fibrous, white stalks a bit woody, round, green, spread out (divaricated) into shoots.

The leaves in pairs are attached to petioles in two series, obliquely turned toward the anterior part, are oblong-round, narrow, narrower towards the petiole, slender, smooth, beset with very short and slender hairs at the margins, with a rib on the lower side, which stands out with a short tip anteriorly, hairy, striated, on both sides of light green colour, on touch they immediately close themselves and indeed upwards, otherwise as those of *Todda-Vaddi*, whose inner sides close themselves towards the back; closed ones mutually lie down in a shield manner.

Flowers arise in their own shoots, the pedicels of which are short, are three petalled, of pale-yellow colour, striated with very fine veins. The style in the middle is red. The calyx is cyathium shaped and dark-green; filled with small, round, grains or seeds, which first are green turn red and then become white.

(Its Uses)

A bath prepared from the plant, cures leprosy and itching and biting burn; an anti-spasmodic ointment is prepared with the oil of *Tzit-Elu* or *Sergelim*, from the same. Juice crushed with *sandal* wood, is a frontal against hot cephalagia (headache or gout in the head).

Man-Tidda-vaddoi L.f.

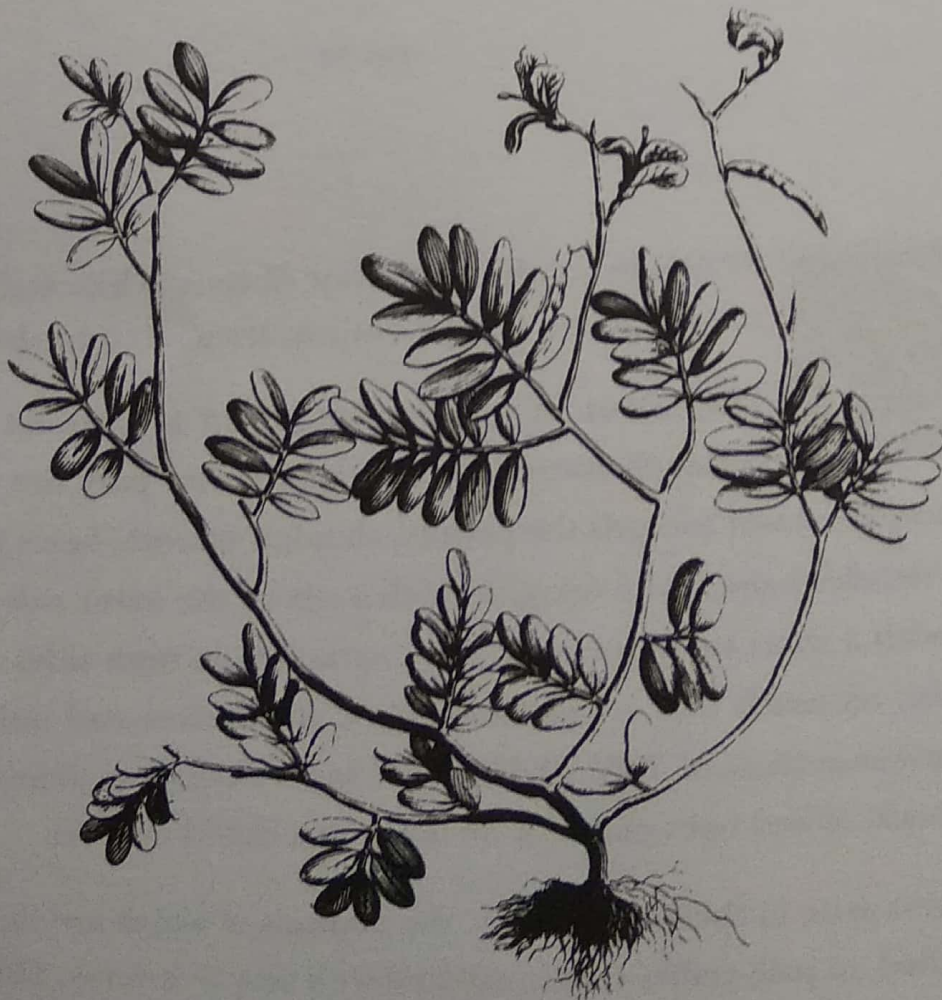


Fig. 22

Tephrosia rheedei DC., Prodr. 2: 255. 1825 ("*rheedii*") [FABACEAE].

Man-todda-vaddi Rheede, Hort. Malab. 9: 39, t. 22. 1689.

The name Manthottavadi [no Malayalam script given on t. 22] is not used; man (colloquial version of the word vann) meaning large; and thottalvadi means that which is wilting on touch. No Malayalam name is known for this species now. The identification needs confirmation.



Aria-veela

FIG. 23



RIA-VEELA, or according to the Brahmins *Tiloni*, is a plant of four feet in height, growing in sandy soils. Root white, fibrous and hairy. The stalks and their shoots green, a little reddish here and there, striated and hairy.

Leaves arise in clusters in threes, fours, fives, are small, oblong-round, anteriorly cuspidate, slender, soft, with plain surface, beset with short hairs, of slight sharp taste, of strong and displeasing smell. Have a mid-rib, giving out lateral ones.

Flowers which arise many from the origin of the leaves on green, slender and hairy petioles, from the tip of the shoots, are small, four petalled, round, a bit oblong, slender, yellow or saffron, each one striated with a vein. In there many slender, green-yellow, erect stamens are seen. They have black apices at the tip, and a thicker style.

The pods are dark-green, are four thumbs and more long, straight, oblong-narrow, a bit pressed together striated in the sides. The seeds which are found in a thick series in the pods, adhere to the sutures and are round-plain, first

green, then yellowish and reddish and finally blackish, have an eye in the middle, from which as from the centre, are striated horizontally (?); well dried ones are dark, then less conspicuous with furrows.

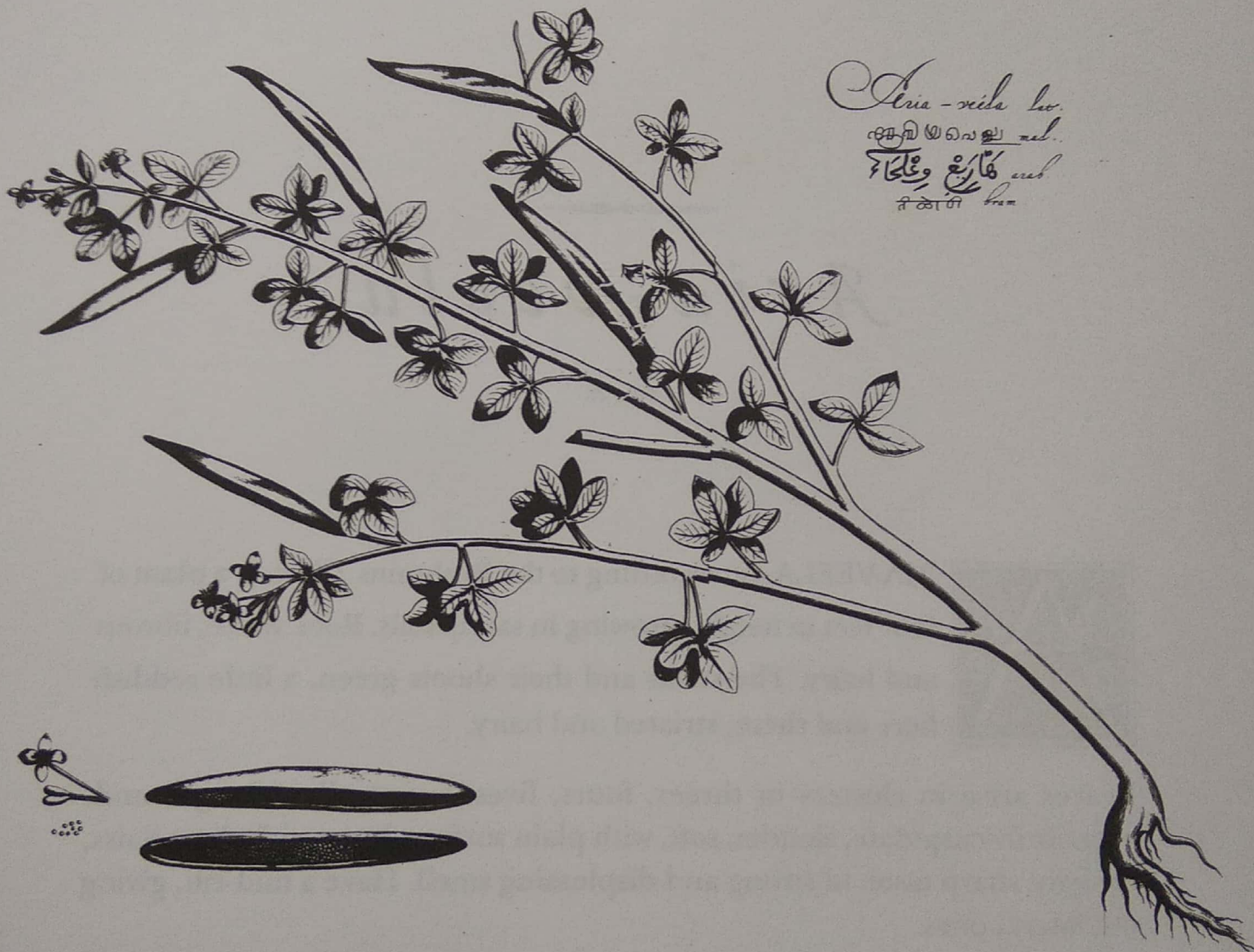


Fig. 23

(Its Uses)

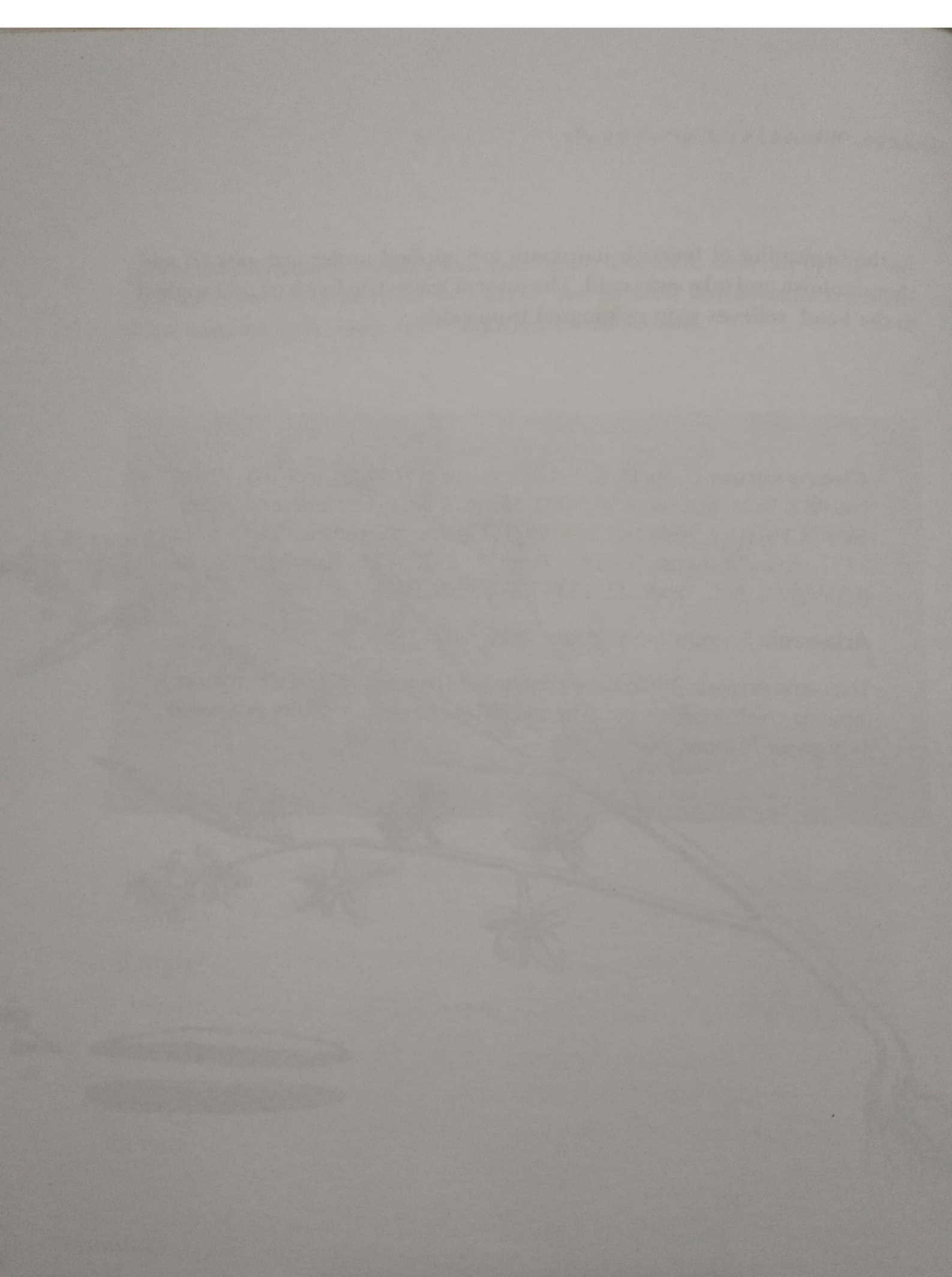
The juice is taken in the nostrils lest the poison lurking in the body should infect the head. The whole plant boiled in water and drunk leads to the same; the leaves promote appetite, and are expectorant and fortifying; destroys (resists) phlegm and gas; ground with root and made into globules,

in the beginning of feverish paroxysm are applied under arm-pits (?) and they diminish and take away cold. The juice of leaves fried with oil and applied to the head, relieves pain originated from cold.

Cleome viscosa L., Sp. Pl. 672. 1753; Jacobs in Fl. Males. I, 6: 103. 1960; Manilal & Sivar., Fl. Calicut 34. 1982; Sasidh. & Sivar., Fl. Thrissur 42. 1996; Sivar. & Philip, Fl. Nilambur 53. 1997. - *Cleome icosandra* L., Sp. Pl. 672. 1753. *Polanisia viscosa* (L.) DC., Prodr. I: 242. 1824. *Polanisia icosandra* (L.) Wight & Am., Prodr. 22. 1834 [CAPPARACEAE].

Aria-veela Rheede, Hort. Malab. 9: 41, t. 23. 1689.

The name Ariavella [Malayalam script on t. 23] is still used. Aria is from Arya, meaning chief, superior, etc. The allusion is not clear. It occurs as a weed throughout Malabar.





Cara-veela

FIG. 24



ARA-VEELA, or as the Brahmins call *Veela* and as *Tiloni*, is a plant of strong and displeasing smell, growing in sandy soils, the root as that of *Aria-Veeli*. Stalks and shoots, bright green, then turning red towards one side, round, not striated, more hairy.

Leaves arise in fives together on green-white hairy petioles the pedicels of which are short, striated, bigger than the rest, but in the rest (in other matter) greatly agreeing.

Flowers arise on the upper part of the shoots, are a bit larger, white, four petalled, oblong, wrinkled striated with no vein. Calyx of four leaves, from the node of which petiole a shining style stands out, with the upper part tipped, where five long, reddish stamens stand out, provided with yellow, erect, striated apices.

The pods are longer and bright green, not striated, but rough and uneven, beset with minute hairs. The seeds quite the same, but bigger.

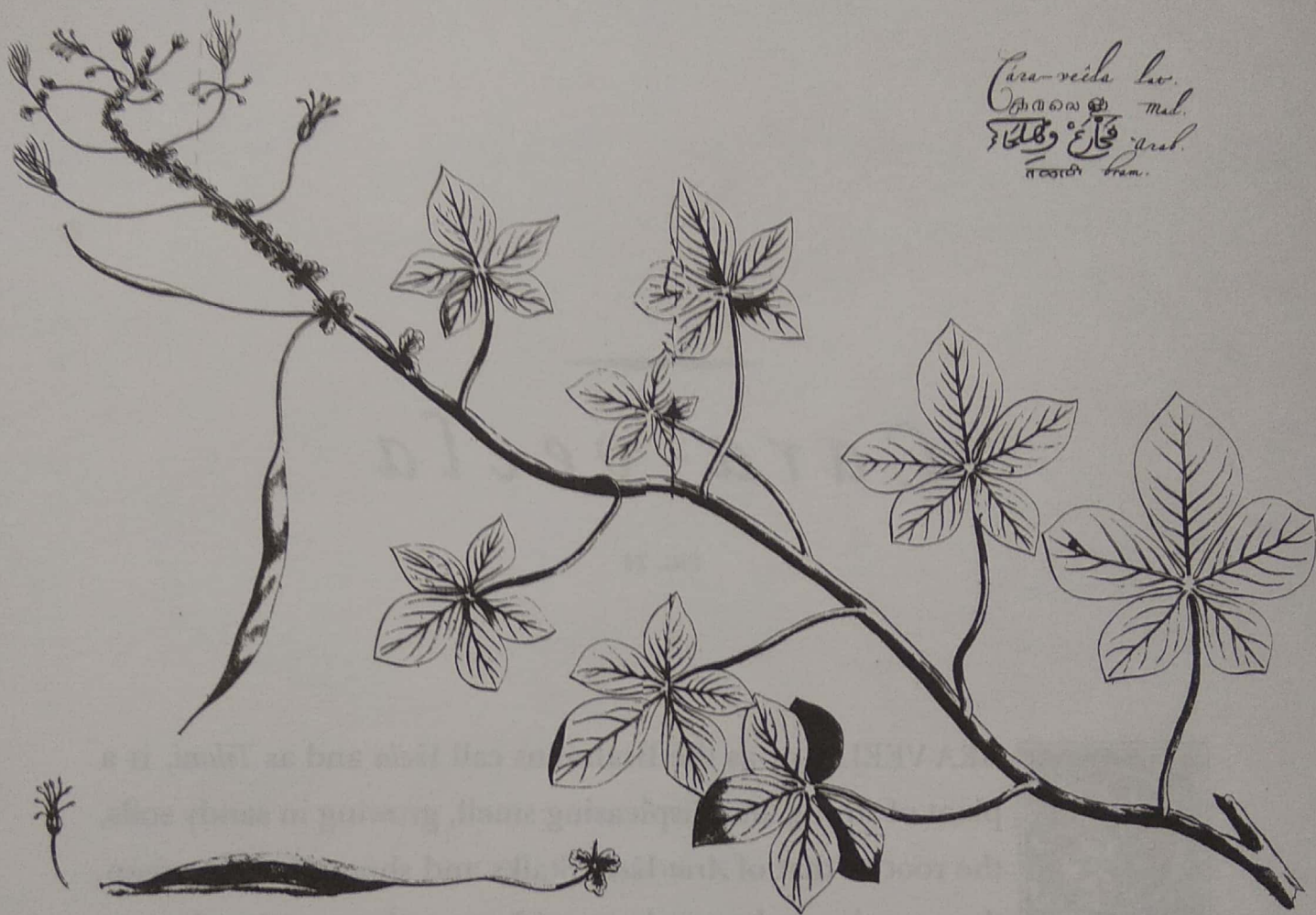


Fig. 24

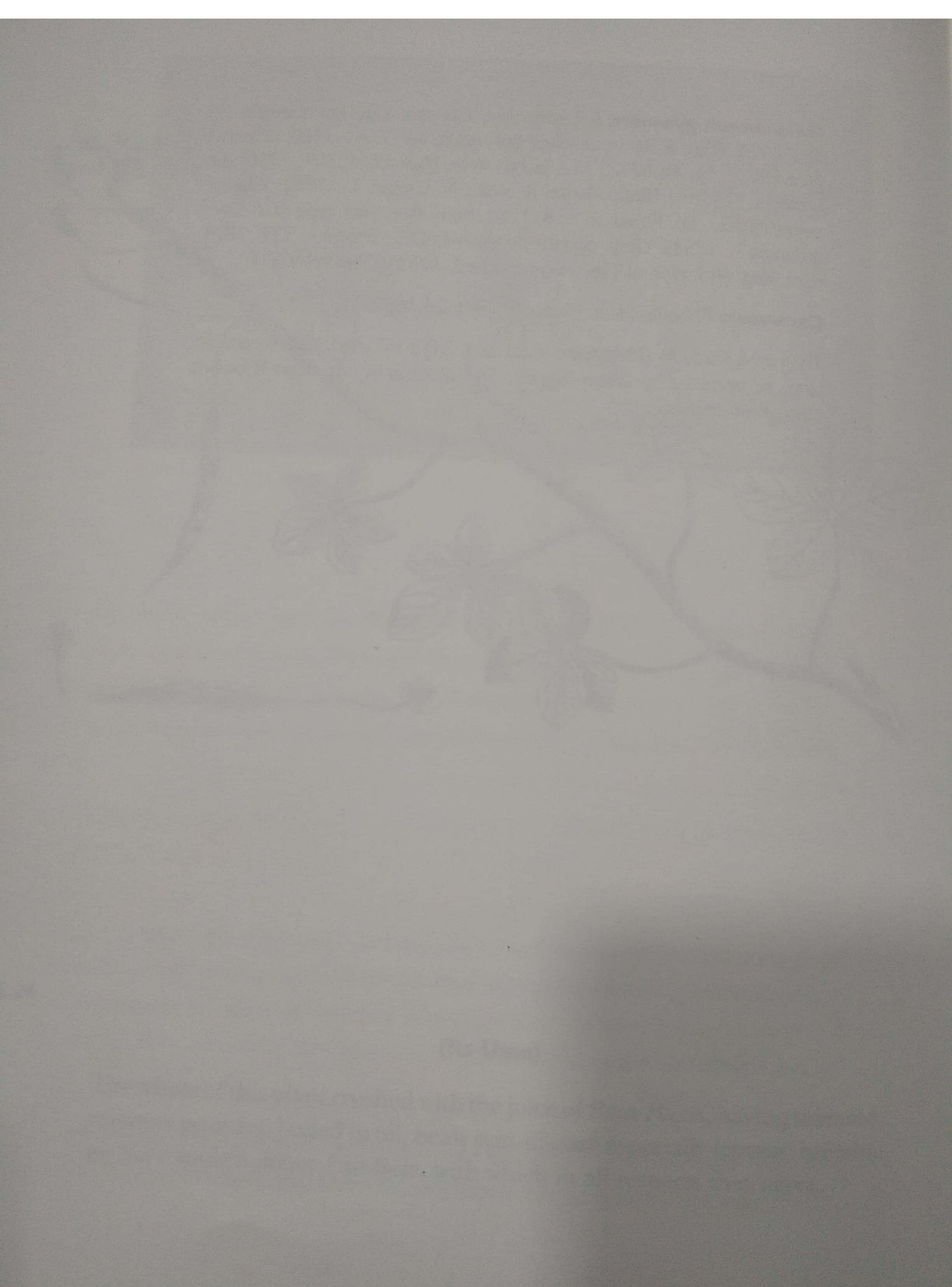
(Its Uses)

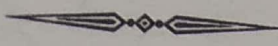
The whole of this plant crushed with the juice of *Raca-Palam*, having smeared, removes pustules; boiled in oil, heals skin-disease especially leprosy; see what we have spoken about *Aria-Veela*, with which in all respects they agree.

Gynandropsis gynandra (L.) Briq., Ann. Conserv. Jard. Bot. Genève 17: 382. 1914; Fosb. & Renvoize, Kew Bull. Addit. Ser. 7: 44. 1980. - *Cleome gynandra* L., Sp. Pl. 671. 1753; Jacobs in Fl. Males. I, 6: 101. 1960; litis, Brittonia 12: 284. 1960; Manilal & Sivar., Fl. Calicut 33. 1982. *Cleome pentaphylla* L., Sp. Pl. ed. 2, 938. 1763, nom. illeg. (incl. type of *Cleome gynandra* L. 1753). *Gynandropsis pentaphylla* DC., Prodr. 1: 238. 1824, nom. illeg. (incl. type of *Cleome gynandra* L. 1753) [CAPPARACEAE].

Cara-veela Rheede, Hort. Malab. 9: 43, t. 24. 1689.

The name Karavella [Malayalam script on t. 24] is still used. Kara means dry land, as opposed to water-logged. The allusion is not clear. It occurs throughout Malabar.





Tandale-cotti

FIG. 25



HERE are five species of this plant, four of the same name, the fifth *Pee-Tandalecotti*. This present one is called *Schama-Puspi* by the Brahmins; grows in sandy and wet soils. Root fibrous, white, woody inside. The stems which come out many from the root, so also green branches, tender one angular.

Leaves arise on branches, oblong-round, tongue-shaped, slender, of thin texture, smooth, of yellow, light-green colour. The mid-rib stands out on the lower part. Flowers are seen in spikes, are golden yellow papilionaceous, four petalled, of no smell. Style light green, thick, is divided into ten light green stamens, five of which, which stand out above the other, bear yellow or saffron apices, the apices of the other are yellow and like little heads. The calyx have four acuminate leaves.

Flower buds are green, oblong-round, claw-shaped. Pods are small, straight, oblong-round, glabrous, contracted towards the lower part by a suture around the venter are clasped by a hollow calyx, divided into five acuminate leaflets.

The small beans leave a great part of the pods vacant, adhering two by two are attached to the suture of the venter by means of funicles, and are plain, reniform, first green, then light red, or from yellow to light dark, and shining like *Veluti*.

Tandale-couli L.
കുങ്കുമക്കുടിയ m.
مانطولا فطير
Tandale-couli



Fig. 25

(Its Uses)

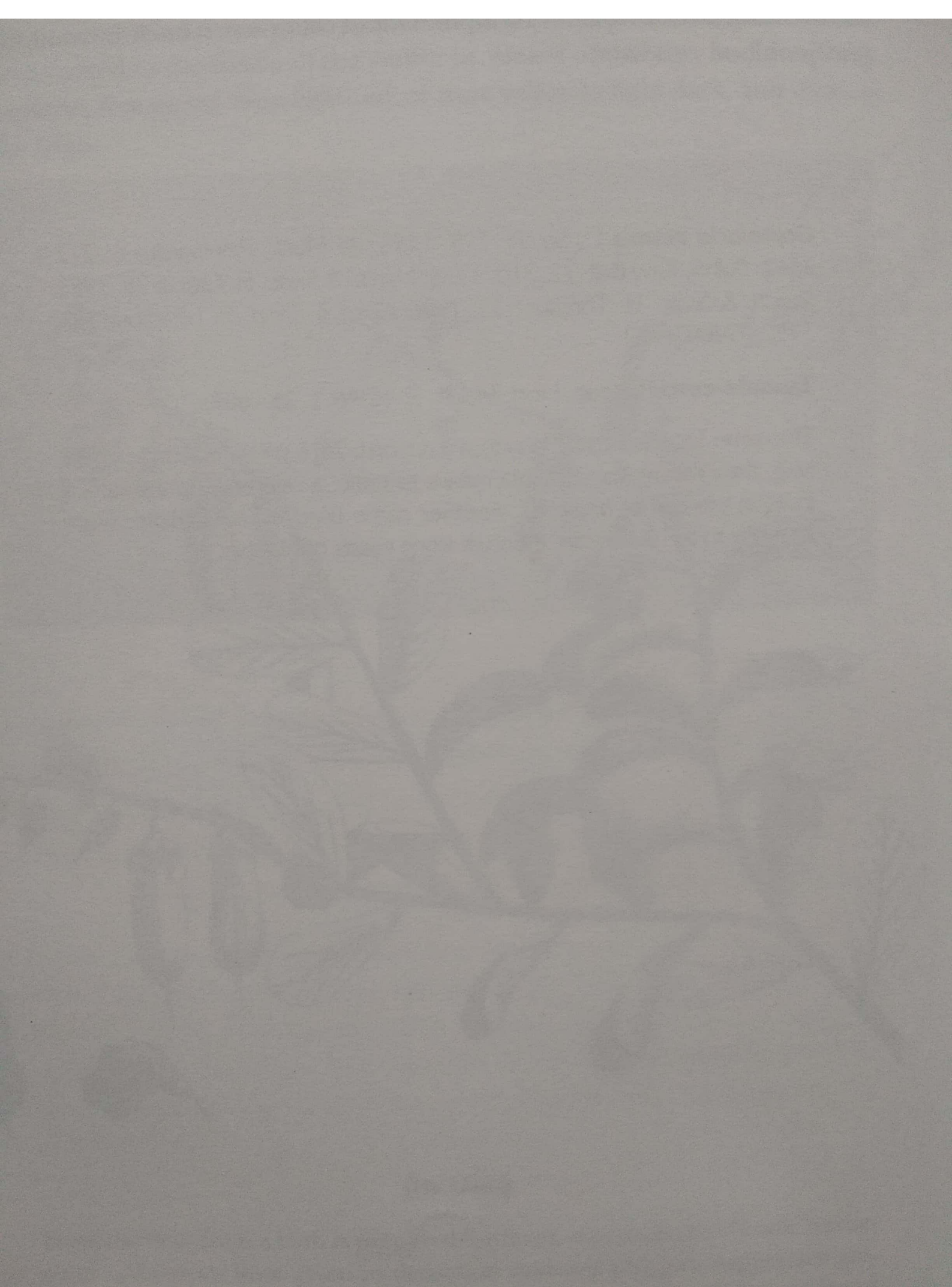
From the decoction a bath is prepared for fever, especially for chronic tertian fever (Malaria). Root given in decoction removes phlegm, suppresses gas. Crushed with wine (grape juice?) is an outstanding anti-colic. The juice of

leaves drunk takes away fevers symptomatic of colic pain, namely by vomiting; purifies blood and liver.

Crotalaria retusa L., Sp. Pl. 715. 1753; de Munk, Reinwardtia 6: 212. 1962; Polhill, Kew Bull. 22: 310. 1968; Manilal & Sivar., Fl. Calicut 78. 1982; Sasidh. & Sivar., Fl. Thrissur 135. 1996; Sivar. & Philip, Fl. Nilambur 183. 1997 [FABACEAE].

Tandale-cotti Rheede, Hort. Malab. 9: 45-46, t. 25. 1689.

The name Thandalakotti [Malayalam script on t. 26] is still used; thandu means twig, thala means tip, and kotti means to rattle, a reference to the rattling fruits at the tips of branches. Another name used is Kilukkankotti, word referring to a child's rattle. It occurs along coasts of Malabar.



Tandale-cotti, No. 2

FIG. 26



THE second species is called *Dacoli-Gageri* by the Brahmins. Agrees with the former practically in all things, except that the leaves are longer, of dark green colour on the upper side, of glass green colour on the lower. The mid-rib stands out high. Flowers, pods, beans, powers, quite the same.

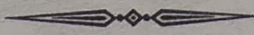
Crotalaria juncea L., Sp. Pl. 714. 1753; de Monk, Reinwardtia 6: 206. 1962; Manilal & Sivar., Fl. Calicut 78. 1982. - *Crotalaria tridentata* Sm. in Rees, Cycl. 10: no. 14. 1819, nom. illeg. (incl. type of *C. juncea* L. 1753) [FABACEAE].

Tandale-cotti Rheede Hort. Malab. 9: 47, t. 26. 1689.

The name Thandalakotti [Malayalam script on t. 26] is not used for this plant but is used for *Crotalaria retusa*. Plate 26 calls it "Katou-Tandale-cotti" (kattu meaning wild), which name also is not used. No Malayalam name is currently known for this rather rare species. It is reported to occur near the coastal region in Malabar but has not been seen.



Fig. 26



Nellia-tandale-cotti

FIG. 27



THE third species, in the language of the Brahmins is called *Gageri*, rises higher, almost to the height of a man; grows in sandy and most soils. Root like the preceding ones. Stem and branches green, angular, longer than the other.

Leaves three in number on one petiole, are round, shorter than the other species, of green-light-yellow colour on the upper part; of glass green colour on the lower. Flowers the same, except that the claws of the former ones are a bit bigger.

The pods agree with those of the first species, so also the seeds and powers.



Fig. 27

Crotalaria laburnifolia L., Sp. Pl. 715. 1753; de Munk, Reinwardtia 6: 206. 1962 [FABACEAE].

Nella-tandale-cotti Rheede, Hort. Malab. 9: 49, t. 27. 1689.

Only the name Thandalakotti appears in Malayalam script on t. 27, a name used for *C. retusa* L. "Nella- Tandale-cotti" appears on t. 27 and "Nellia-tandale-cotti" appears at the head of p. 49. In fact, the name Nallathandalakotti is still used; nalla means good, a reference to its medicinal properties (?). It occurs along the coast of Malabar.



Wellia-tandale-cotti

FIG. 28



THE fourth species is called *Gagaro* by the Brahmins, of three feet in height. Root and stems agree.

Leaves five in number, are oblong-narrow, anteriorly round and narrow towards the petiole, of green colour on the upper side, of glass-green colour on the lower.

Flowers the same, pods longer, attached to the calyx by a short peduncle, more broad, bulging out with venter, by which they are like narrow vesicles, filled with much oil. Beans, powers, as above.

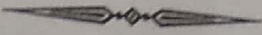


Fig. 28

Crotalaria quinquefolia L., Sp. Pl. 716. 1753; de Munk, Reinwardtia 6: 212. 1962; Manilal & Sivar., Fl. Calicut 79. 1982; Sivar. & Philip, Fl. Nilambur 182. 1997 [FABACEAE].

Wellia-tandale-cotti Rheede, Hort. Malab. 9: 51, t. 28. 1689.

Only the name Thandalakotti appears in Malayalam script on t. 28, a name used for *Crotalaria retusa* L. Valiyathandalakotti is still used; valiya means large, a reference to its large pods. It occurs along the coast of Malabar.



Pee-tandale-cotti

FIG. 29



THE fifth species is known as *Butta-Gageri* by the Brahmins; root, stems, do not differ from the former ones.

Leaves are more broad, oblong-round, with the maximum width in the middle, curly in the margins, thick in texture, very thinly hairy and whence covered with white down.

Flowers are light purple-blue and white, the older ones more coloured, the broadest leaf turns greatly whitish from blue and consequently is somewhat heavy in the back: two erect ones are of purple-strong blue colour: the claw green-white, and in the tip with the platform somewhat bluish; the apices of the style oblong, yellow, saffron. The outer calyx somewhat hairy.

The pods as that of the first species, but lightly covered with prostrate hairs. Seeds the same.

(Its Uses)

Powers the same (as above), except that the root of this crushed and placed on eyes, restores and sets aright memory: the juice of leaves diminishes the "fluour" (flow?) of Mercury.



Pee-tandale-cotti L.
പെതന്ദലകോട്ടി. M.
بجف مانطولا قاطين Arab.
Pee-tandale-cotti

Fig. 29

Crotalaria verrucosa L., Sp. Pl. 715. 1753; de Munk, Reinwardtia 6: 217. 1962; Manilal & Sivar., Fl. Calicut 78. 1982; Manilal, Fl. Silent Valley 74. 1988.
-*Crotalaria angulosa* Lam., Encycl. 2: 197. 1786, nom. illeg. (incl. type of *C. verrucosa* L. 1753) [FABACEAE].

Pee-tandale-cotti Rheede, Hort. Malab. 9: 53, t. 29. 1689.

The name Peethandalakotti [Malayalam script on t. 29] is not used; pee means wild; and thandalakotti refers to *Crotalaria retusa* L. Today it is only known as a kind of Thandalakotti. It occurs along the coasts of Malabar.



Kattu-tagera

FIG. 30



T is a plant of two or three feet in height, growing in sandy soils. Root white, fibrous. Shoots woody, reddish covered with long reddish hairs, tender ones green on one side, on the other blood red, older ones with red-light red bark, the core inside is white.

Leaves arise on a common, short, hairy petiole, in threes and fives, are oblong-round, covered thickly on both sides with white hairs, slender, soft, with smooth surface, shape like *Tagera*, but a bit bigger, of biting and slightly burning taste, with the rib standing out on the lower surface and striating the upper surface.

Flowers many clustered together, are seen in orderly series at the tip of the shoots here and there alternately, are small, papilionaceous, are of deep rose colour. The style which lies near the clawed leaf is theca-shaped, light green, divided on the upper side into short filaments, tipped with yellow apices. The calyx has green, very narrow leaves, six in number, clothed with hairs.

The pods are short, serially hanging from short peduncles, are round, very hairy, separated in length into two adjacent parts by two dark-green sutures, a bit bulging out in between the sutures, their rind is first green then from red to light reddish. The seeds which are contained in there are small, when



Fig. 30

old (mature) long, placed in length (lengthwise) of the pods, mutually separated from among themselves, are white and light yellow.

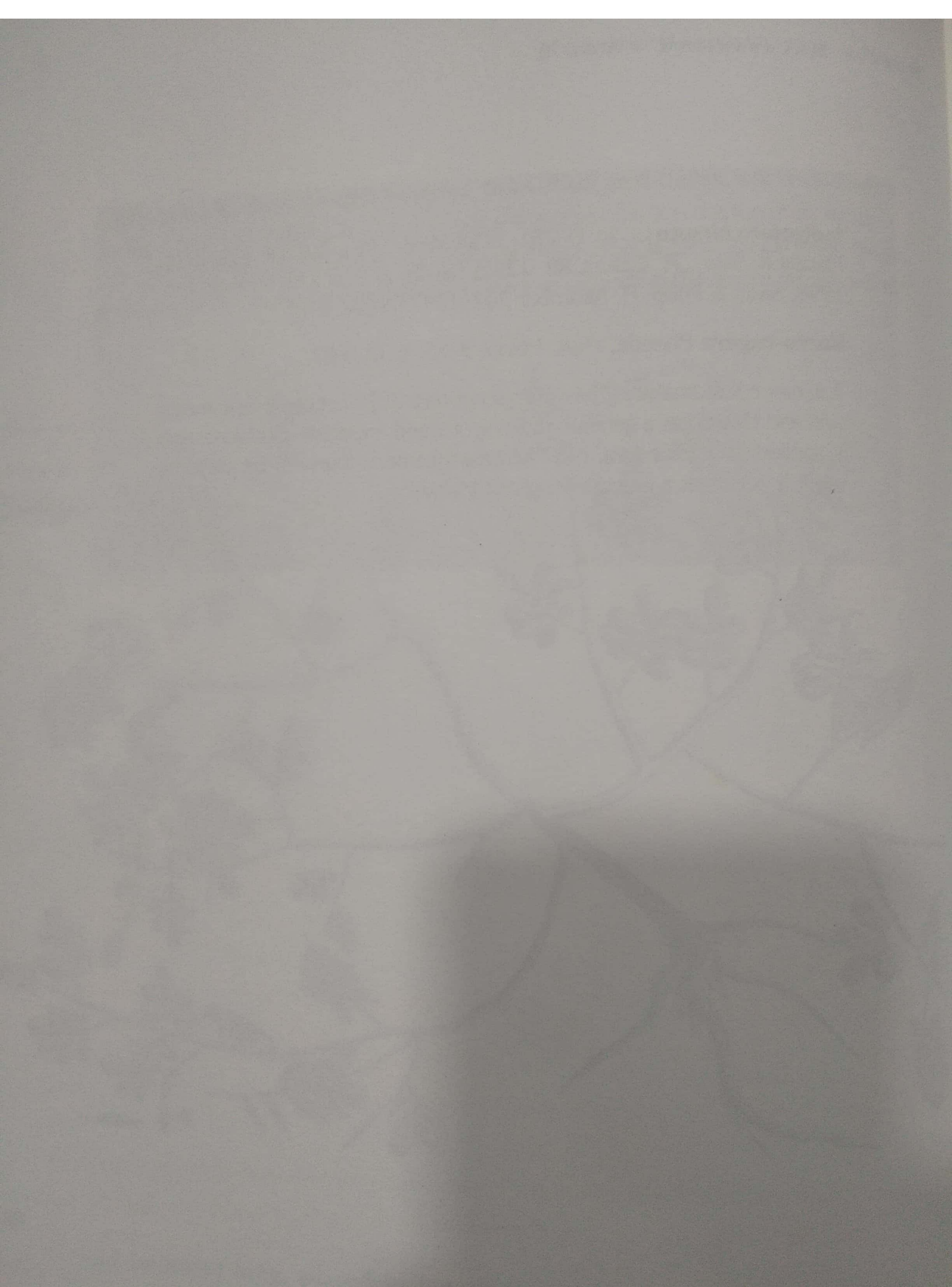
(Its Uses)

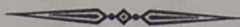
From this plant an anti-phrenitic (against frenzy) decoction is made.

Indigofera hirsuta L., Sp. Pl. 751. 1753; Verdc., Kew Bull. 24: 500. 1970; Manilal & Sivar., Fl. Calicut 88. 1982; Sasidh. & Sivar., Fl. Thrissur 145. 1996; Sivar. & Philip, Fl. Nilambur 202. 1997 [FABACEAE].

Kattu-tagera Rheede, Hort. Malab. 9: 55, t. 30. 1689.

The name Kattuthakara [Malayalam script on t. 30] is not used; kattu means wild and takera has a general meaning of weed, especially Crotalarias, but is applied to *Cassia tora*. No Malayalam name is found to be currently used. It occurs as a weed throughout Malabar.





K o n d a m - p a l l u

FIG. 31

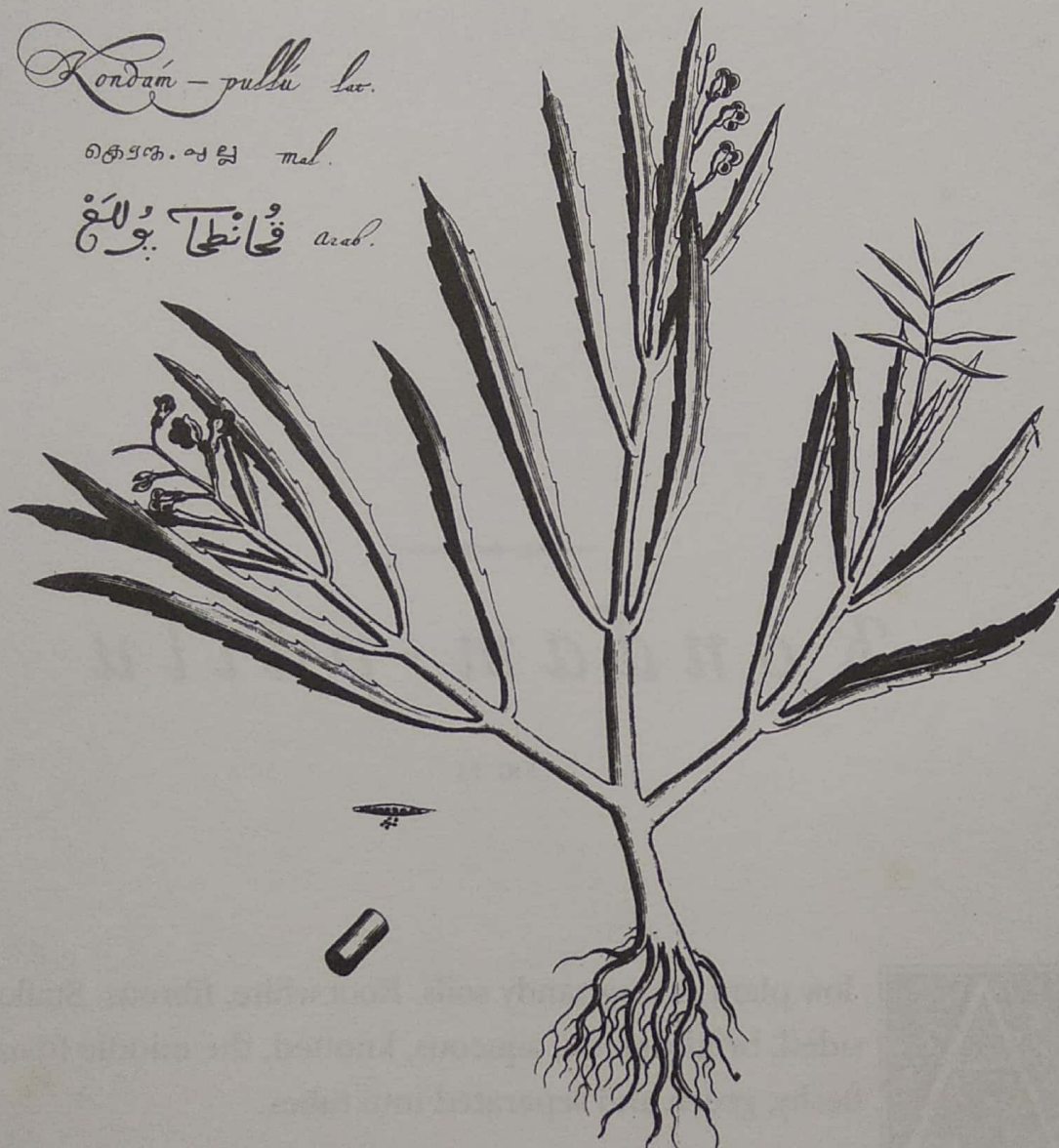


low plant, liking sandy soils. Root white, fibrous. Stalks four-sided, bright green, aqueous, knotted, the middle filament is fleshy, green and separated into tubes.

Leaves in pairs are attached to the nodes and in a decussate order, and are oblong-narrow, sparsely crenate with very short corners wide apart; are rigid, thick, glabrous, clear-green, on the lower side standing out high.

Flowers arise on short petioles at the origin of leaves, are bluish-purple, two petalled, with one towards the venter of the neck, incised into three round leaflets, marked with white-furrows up to the middle, the other erect, cuspidate, bent towards the first. In the middle they have the only white stamen, red-purple above.

Seed-bearing capsules are oblong-round, in which sand-like seeds, like those of fishes (eggs) are placed in dense and closely packed numbers.



Kondam-pullu lat.

കണ്ടമപുല്ലു mal.

قنطاطة بولغ arab.

Fig. 31

Lindernia oppositifolia (Retz.) Mukh., J. Ind. Bot. Soc. 24: 134. 1945; Manilal & Sivar., Fl. Calicut 200. 1982; Sivar. & Philip, Fl. Nilambur 474. 1997. - *Gratiola oppositifolia* Retz., Obs. Bot. 4: 8. 1786; Willd., Sp. Pl. 1: 105. 1797; Roxb., Corom. Pl. 2: 30, t. 155. 1802. *Bonnaya oppositifolia* (Retz.) Spreng., Syst. Veg. 1: 41. 1825. *Ilysanthes oppositifolia* (Retz.) Urban, Ber. Deutsch. Bot. Ges. 2: 435. 435. 1884 [SCROPHULARIACEAE].

Kondam-pullu Rheede, Hort. Malab. 9: 57, t. 31. 1689.

The name Konthampullu [Malayalam script on t. 31] is not used; kontham [from kuntham] refers to a spear head and pullu is a general name for grasses. No Malayalam name is currently known. It occurs along the coasts of Malabar, commonly along the backwaters of Cochin.



Nir-murri

FIG. 32



NJOYS hard and aqueous soils, of two feet in height and more. Branches a bit woody, green.

Leaves, which arise on short peduncles, are oblong, slender, bright-green. Flowers papilionaceous, reddish, in the middle bordering on the bluish from red; of no smell. The pods are small oblong, straight, narrow, compressed, when dry turning reddish, seeds long, square, white.

(Its Uses)

This plant, except its root, is boiled in water in a well clogged (holes stopped) vessel, the vapour of which destroys that cacochymic swelling (bad, semi-fluid mass into which food is converted by gastric secretion), which that endemic disease called *Pitao* induces.

Nir-murri Loe.

പിറ്റാ മാല.

Saniti

സാന്ദിതീ Nam.

نير مؤصفي Arab.

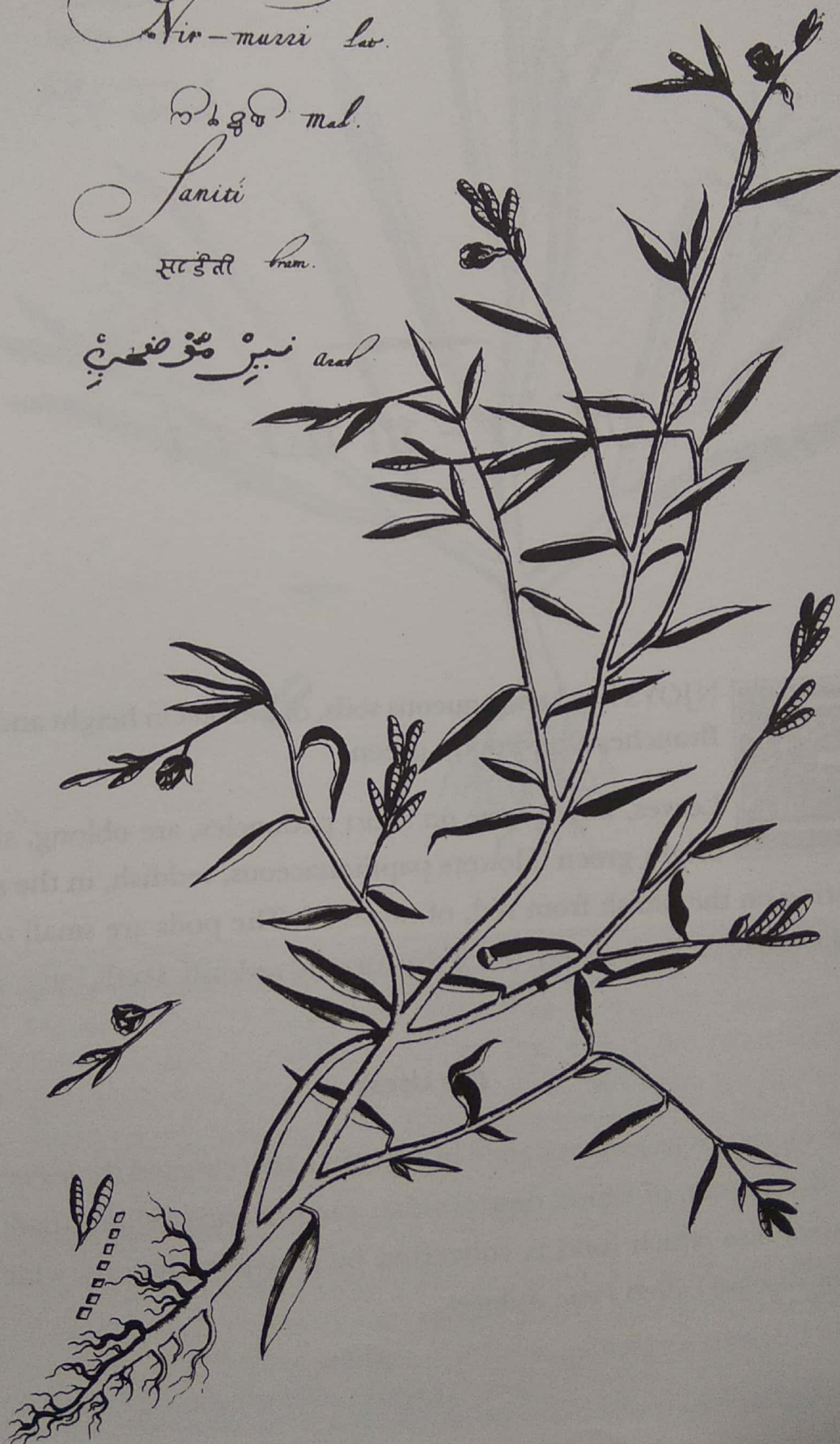
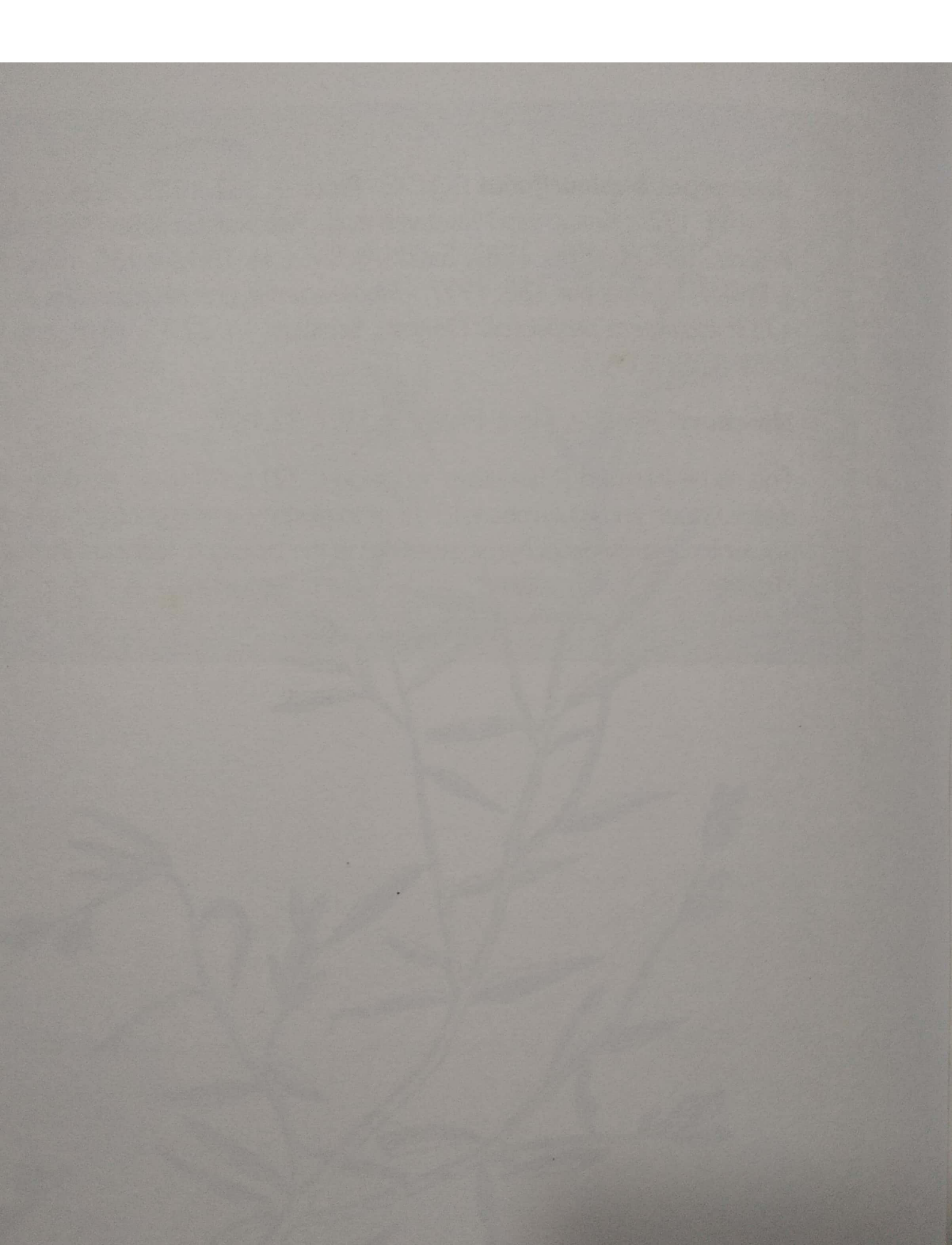


Fig. 32

Alysicarpus bupleurifolius (L.) DC., Prodr. 2: 352. 1825; Schindler, J. Bot. 64: 154. 1926; Knapp van Meeuwen et al., Reinwardtia 6: 88. 1961; Manilal & Sivar., Fl. Calicut 86. 1982; Sasidh. & Sivar., Fl. Thrissur 130. 1996; Sivar. & Philip, Fl. Nilambur 188. 1997. - *Hedysarum bupleurifolius* L., Sp. Pl. 745. 1753. *Indigofera simplicifolia* Dennst., Schlüssel 14, 22, 35. 1818, non Lam. 1789 [FABACEAE].

Nir-murri Rheede, Hort. Malab. 9: 59, t. 32. 1689.

The name Nirmuri [Malayalam script on t. 32] is still used; nir (from neer) means water; and muri means to cut or to destroy, a reference to its medicinal power to destroy cacochymic swellings in the stomach. It occurs throughout Malabar.





Cupa-vela

FIG. 33



HICH plant is called *Cupa-Vela* by the Malabaris; *Rani-quela* by Brahmins; two or three feet in height, growing in sandy soils. Root white, fibrous. Branches quadrangular, light green, knotted.

Leaves arise in pairs in the nodes and in a decussate order, on short peduncles, are oblong-narrow, drawn into a tip, of common greenness. The mid-rib, with the lateral ones stand out on the lower side, striate on the upper.

Flowers are seen two or three clustered together in shoots at the origin of leaves, are small, five petalled, white, round, spread out in a star like manner, pronounced with minute tips, with an oblong thick, green-white, emerging from a tight, light-green calyx, made from five cuspidate leaves.

When they have fallen down, succeed oblong, slender, round pods, drawn into a tip, slightly twisted, first green, then purple-dark-red, at last turning ash coloured. In these are contained oblong seeds, striated with small furrows, have an only (one) oblong, deep, black cavity.

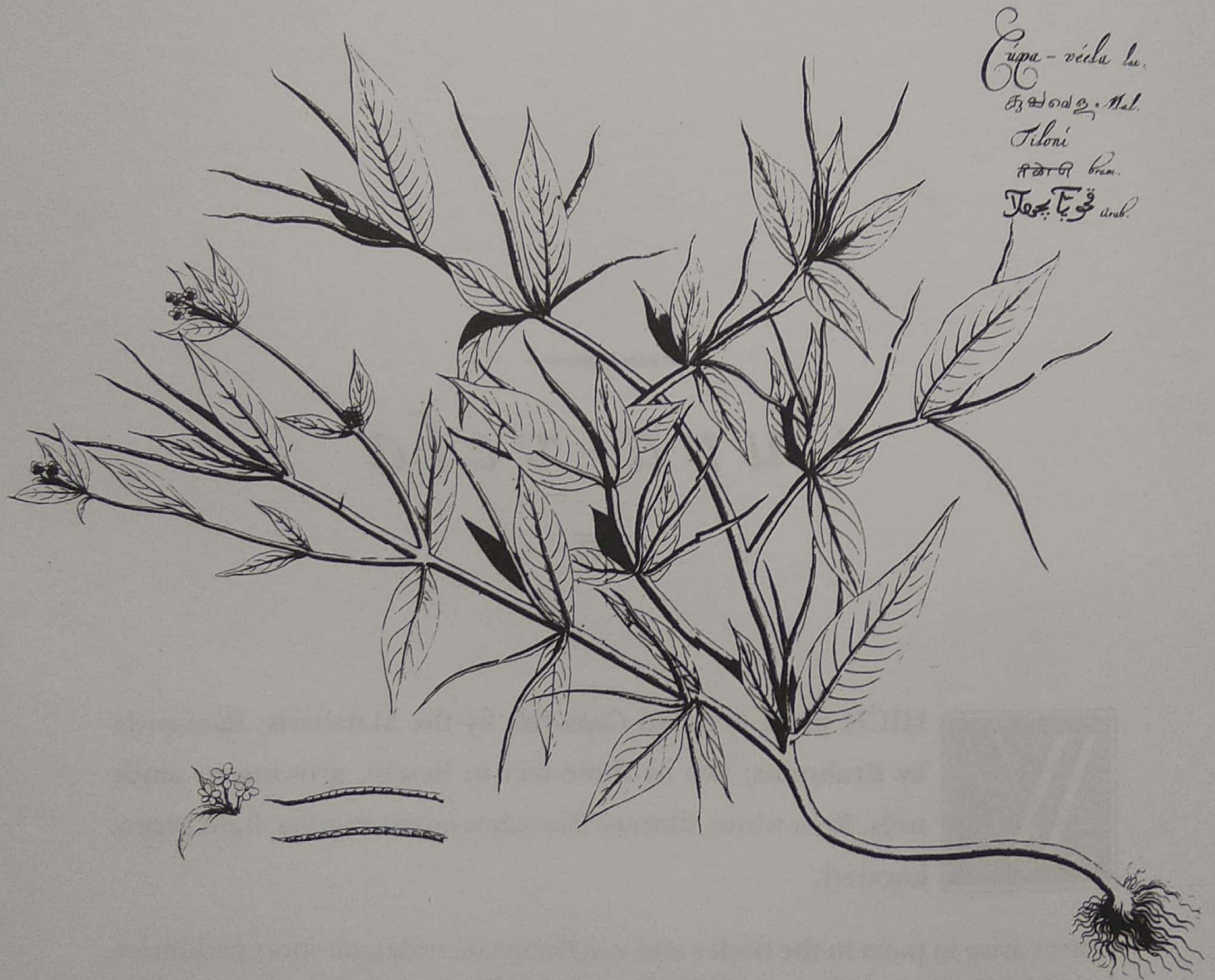


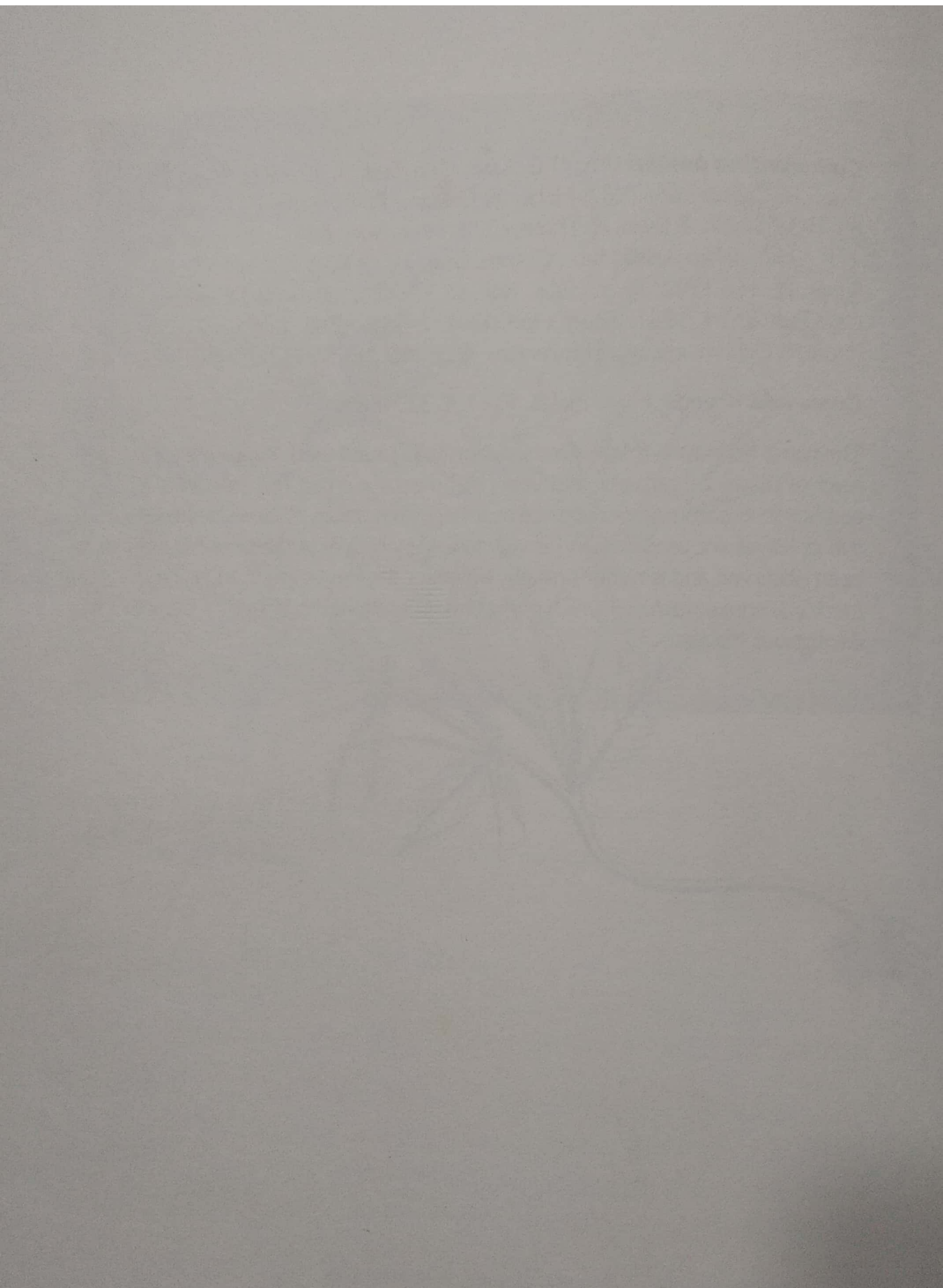
Fig. 33

(Its Uses)

Catharanthus pusillus (Murr.) G. Don, Gen. Syst. 4: 95. 1836; Manilal & Sivar., Fl. Calicut 165. 1982; Huber in Dassan., Rev. Handb. Fl. Ceylon 4: 45. 1983; Sasidh. & Sivar., Fl. Thrissur 278. 1996; Sivar. & Philip, Fl. Nilambur 411. 1997. - *Vinca pusilla* Murr., Comm. Goetting. 3: 66, t. 2, f. 1. 1773; L.f., Suppl. Pl. 166. 1782; Retz., Obs. Bot. 5: 3. 1788. *Vinca parvifolia* Retz., Obs. Bot. 2: 14. 1781; Aiton, Hort. Kew. 1: 296. 1789. *Lochnera pusilla* (Murr.) K. Schum. in Engl., Pflanzenfam. 4(2): 145. 1895 [APOCYNACEAE].

Cupa-vela Rheede, Hort. Malab. 9: 61, t. 33. 1689.

The name Kuppavela [Malayalam script on t. 33] is still used. Kuppa means a heap of refuse or garbage; and vela [vila] means a crop. The reference is perhaps to its common occurrence near neglected places. Rheede mentions that its leaves are used in *Cari* [as vegetables] by natives but this use has not been observed and is rather unlikely; however the leaves are used in some medicinal drinks (*kashaya*) which might have been mistaken by him. It occurs throughout Malabar.





Tsjeru-vela

FIG. 34



LIKES sandy soils. Root white, fibrous, having in the middle a white and woody filament. The stalks green, hairy, inside hardly woody.

Leaves arising in hairy, green petioles, are oblong-narrow, on the inside, contracted into a tip, hairy. The mid-rib, with the rest stands out on the lower side, marking the upper.

Flowers are seen above the origin of flowers, are four petalled, oblong-round, narrow, light red, light purple. In these are five, oblong, white stamens, the apices of which are oblong, green-blue, with these comes out a hairy, green, rudiment of the pod, the reddish tip of which is curved towards the same part with the stamens. The calyx is made up of four oblong narrow, cuspidate leaves, turning reddish.

The pods are oblong-narrow, round, drawing into a tip, hairy, striated with small cavities, green, like those of *Cupa-Vela*.

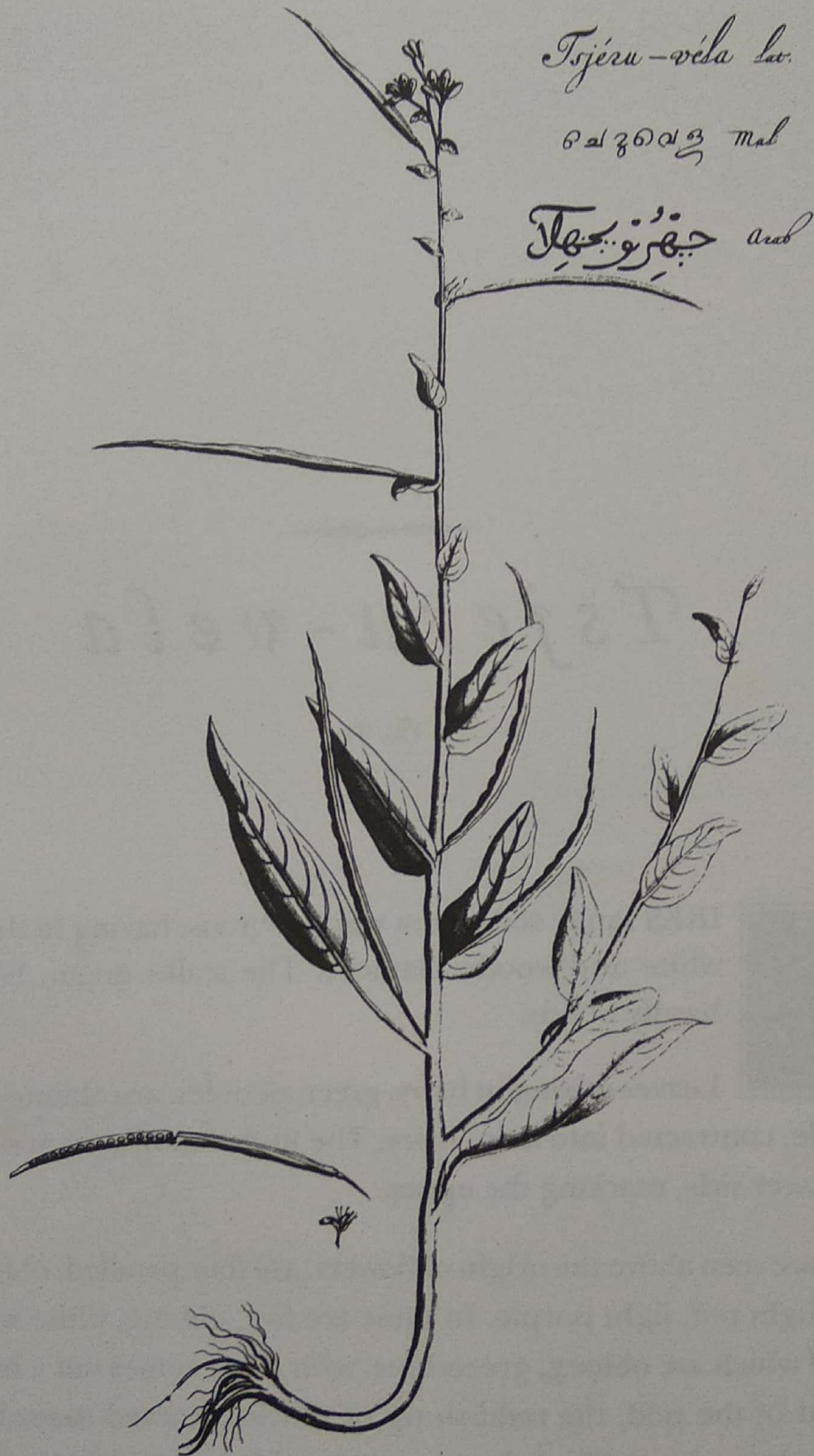


Fig. 34

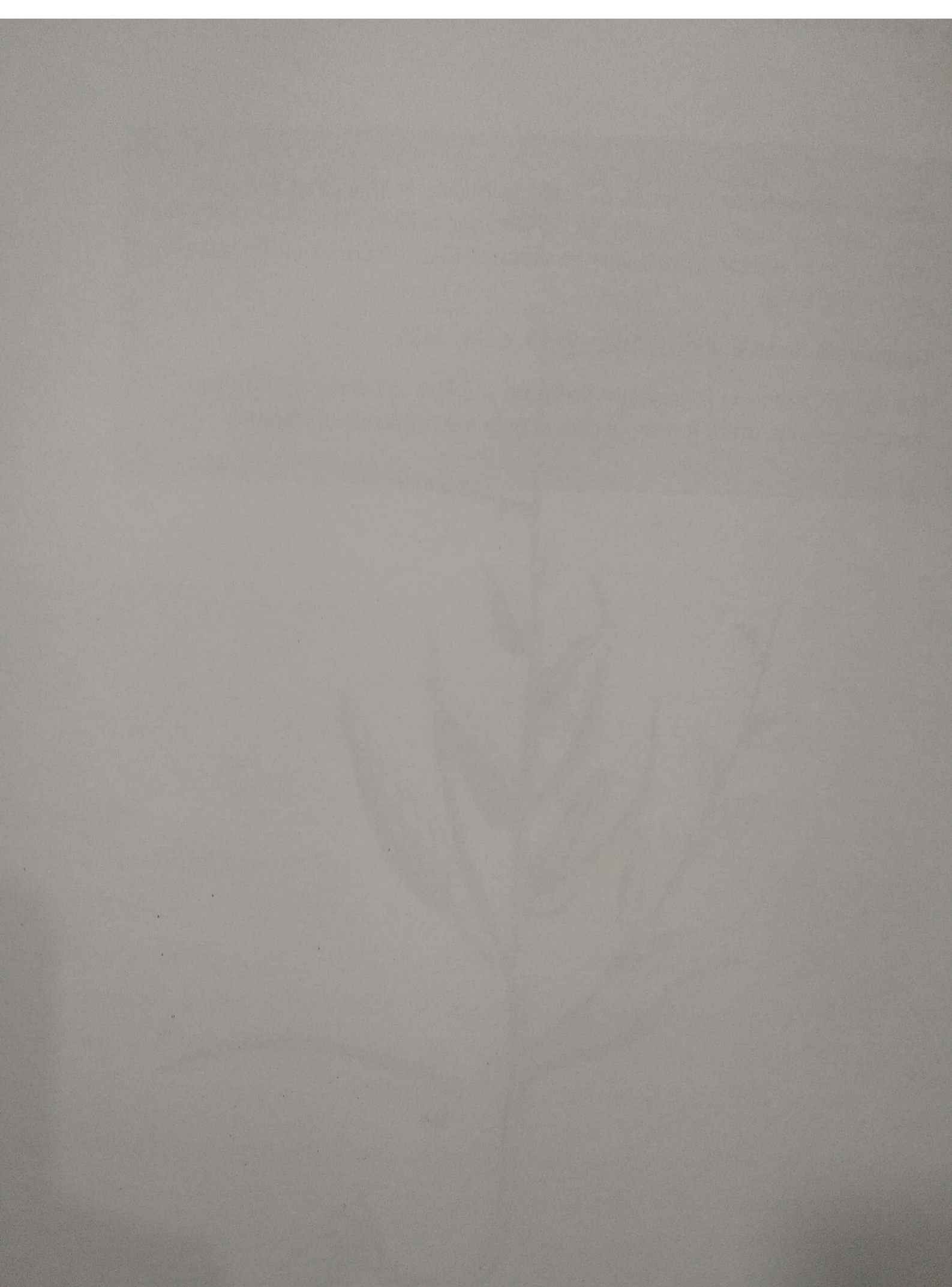
(Its Uses)

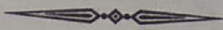
Crushed, with rice-water, except the root, this plant cures wounds and punctures of nerves.

Cleome monophylla L., Sp. Pl. 672. 1753; Manilal & Sivar., Fl. Calicut 34. 1982; Sasidh. & Sivar., Fl. Thrissur 42. 1996; Sivar. & Philip, Fl. Nilambur 53. 1997. - *Cleome monophylla* var. *malabarica* DC., Prodr. 1: 239. 1824 [CAPPARACEAE].

Tsjeru-vela Rheede, Hort. Malab. 9: 63, t. 34. 1689.

The name Cheruvela [Malayalam script on t. 34] is still used; cheru (from cheruthu) means small. It now occurs only in the highlands of Malabar.





Vallia-capo-molago

FIG. 35



THE second species, agrees with the former, described in the second part, there is yet a third species differing only in that the fruits become almost a finger oblong and much thicker. See its description in *Part 2, Tab. 56*.

(Its Uses)

Poison of mad dog is rendered ineffective, when the wounded part is smeared with the crushed fruit or also root of this plant.



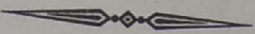
Vallia-capo-molago L.
 വാലിയ കപ്പാ മൂലാഗ
 Pōira-cali-medi
 പുറുതകാരിമിടി
 وَاَلِيَا كَاطَا مَوْلَاغَا arab.

Fig. 35

Capsicum frutescens L., Sp. Pl. 189. 1753; Fingerhuth, Monogr. Gen. Capsicum 17, t. 4, f. c. 1832; Hepper in Dassan., Rev. Handb. Fl. Ceylon 6: 395. 1988 ("1987"); Manilal & Sivar., Fl. Calicut 191. 1982; Sivar. & Philip, Fl. Nilambur 466. 1997 [SOLANACEAE].

Vallia-capo-molago Rheede, Hort. Malab. 9: 65, t. 35. 1689.

The name Valiyakappamulaku [Malayalam script on t. 35] is still used in certain areas; valiya means large, kappa (from kappel) means ship, i.e., introduced from overseas; and mulaku refers to hot chillies. It is more commonly called Valiyamulaku. It is now widely cultivated throughout Malabar.



Nir-pullari

FIG. 36



LS a small plant enjoying sandy soil. Stalks are slender, green, hairy, turning reddish on the upper-side. The petioles of leaves become red, guided by two minute cuspidate leaflets at the origin (of the leaves), the leaves themselves are oblong-round, slender, smooth, of green colour on the upper surface, of glass greenness on the lower, where the mid rib stands out.

Flowers, many clustered together are seen above the origin of leaves on very slender peduncles, are papilionaceous, four petalled, of rose, deep-purple colour. The style is clawed, oblong, thick, white, divided into slender filaments above, which are tipped with yellow apices; of no smell.

(Its Uses)

The whole of this plant with the whey of milk or also by itself is prepared into a bath, which is an antidote against the bite of the snake *Polega*; crushed and roasted strongly with the oil of Indian nut is taken with success in colic and dysuria (difficulty or pain in passing urine), the leaves and water of tender

coconut given with "aromatic reed" removes the difficulty of painful urination. The juice with *jure Gallinaceo* taken in (drunk) is lithonthriptic (destroying stone in bladder).

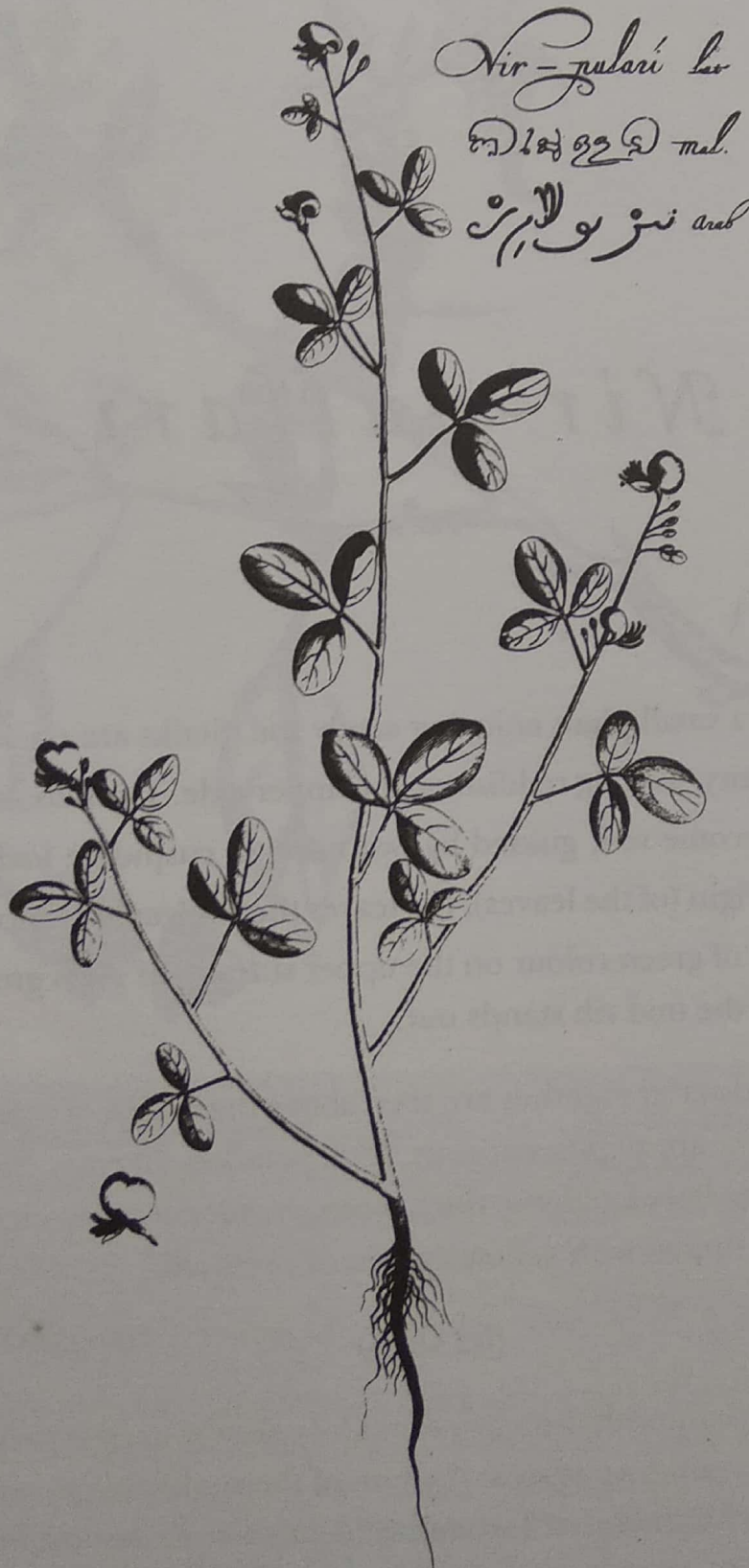
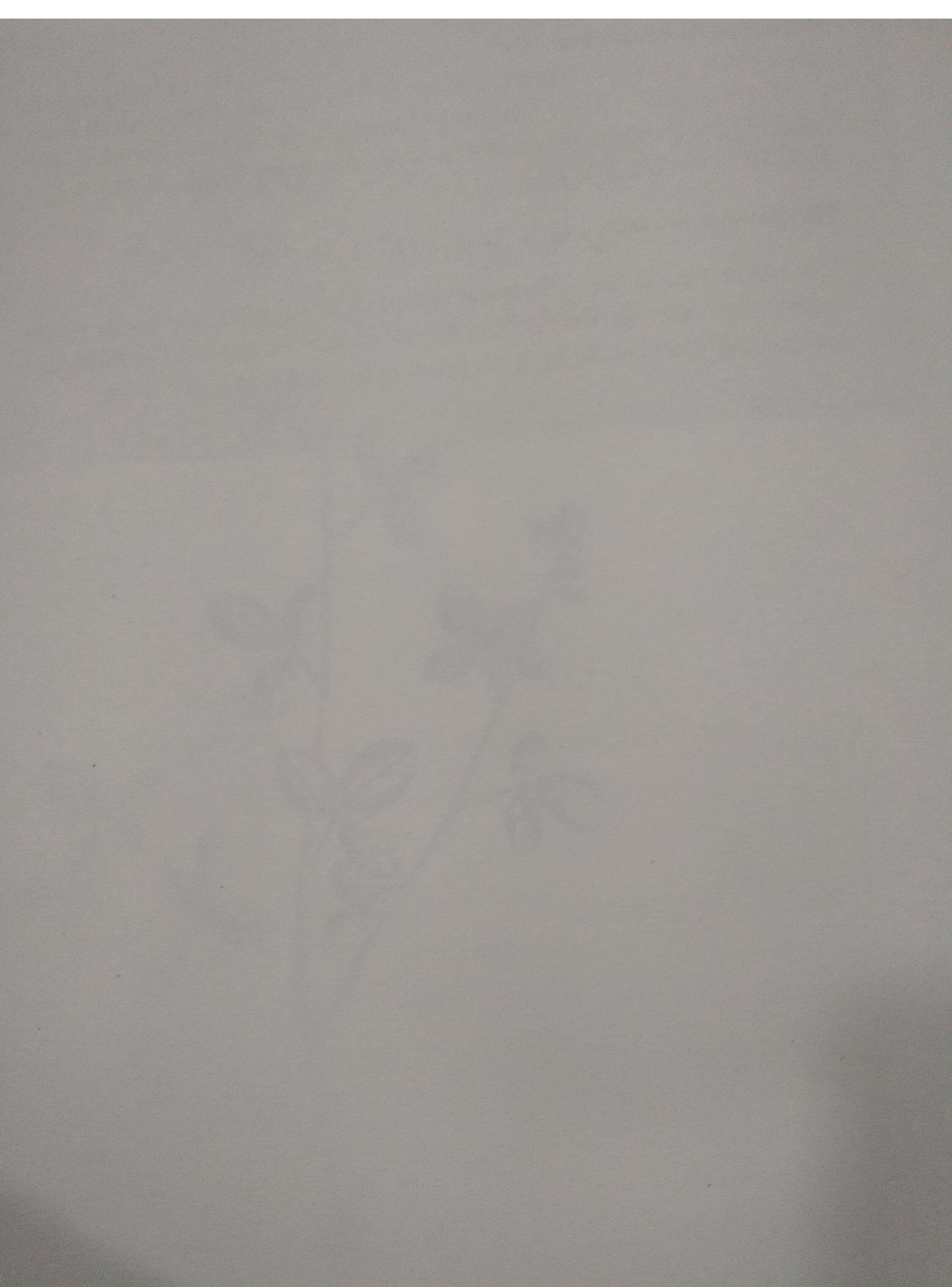


Fig. 36

Pycnospora lutescens (Poir.) Schindler, J. Bot. 64: 145. 1926; Manilal, Fl. Silent Valley 85. 1988; Sasidh. & Sivar., Fl. Thrissur 150. 1996; Sivar. & Philip, Fl. Nilambur 200. 1997. -*Hedysarum lutescens* Poir. in Lam., Encycl. 6: 417. 1805. *Pycnospora hedysaroides* R. Br. ex Baker in J. Hook., Fl. Brit. Ind. 2: 153. 1876 [FABACEAE].

Nir-pullari Rheede, Hort. Malab. 9: 67, t. 36. 1689.

The name Neerpulladi [Malayalam script on t. 36] is not used; neer means water; the meaning of pullari is not clear, as also the allusion. No Malayalam name is currently available. It occurs in uplands of northern Malabar.



Manneli

FIG. 37



ROWS in sandy soils. Branches hard, green, partly turning red. Leaves arise many clustered together, more or less in fours, sixes, are small, oblong-narrow, slender, dark green.

Flowers papilionaceous, beautifully reddish: of no smell. Pods very small, green beans, which later turn red.

(Its Uses)

The leaves are used by the natives in the preparations of *Caril*. From the whole of this plant a bath is prepared with skimmed milk, opening the boils of the thighs, phlegmonodes (purulent inflammation), oedematodes (pathological accumulation of fluids in tissue spaces). An aposema (decoction) is prepared in washings of rice, taking away swelling of the belly and softening the raised up one. From the ashes a "lixivium" is brought forth with which the "dirts" of the head are purged. Crushed leaves loosen or open abscesses. From the root an oil is extracted with which head is smeared in erysipales (inflammatory disease, generally in the face, marked by a bright redness of the skin).

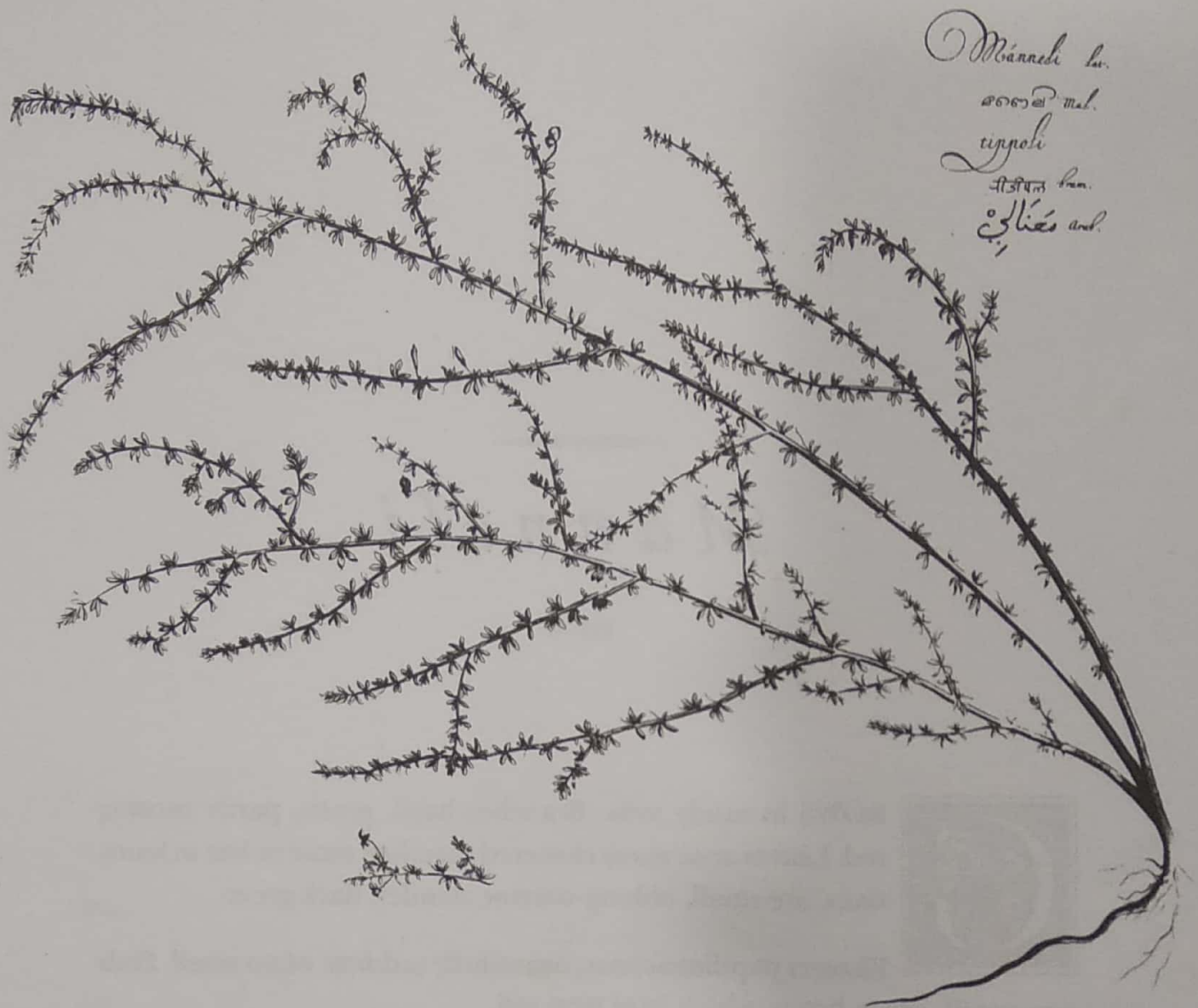


Fig. 37

Indigofera aspalathoides Vahl ex DC., Prodr. 2: 231. 1825. -*Aspalathus indica* L., Sp. Pl. 712. 1753, non *Indigofera indica* Lam. 1789. *Indigofera aspalathifolia* Roxb., [Hort. Beng. 98. 1824, nom. nud.] Fl. Ind. 3: 371. 1832, nom. illeg. (incl. type of *Indigofera aspalathoides* DC. 1825) [FABACEAE].

Manneli Rheede, Hort. Malab. 9: 69, t. 37. 1689.

The name Maneli [Malayalam script on t. 37] is still used. Manel means sand. The allusion is to its favoured habitat of sandy beaches. It grows along the beaches of Malabar.

Tsjovanni-manneli

FIG. 38



THE plant is low, with numerous shoots spread wide, liking watery soil. Root white, fibrous. Shoots slender, on all sides reddish, rigid.

Leaves arise in pairs on each petiole, in two or three pairs; are small, and when the plant gets old, dwindling into smaller shape, oblong-round, of dark colour, they are closed at touch, so also at night. The rib stands out on the lower side, where the leaves, chiefly in the rib and in the margins are beset with whitish and shining hairs.

Flowers, which come out three or four together at the origin of the foliaceous petioles, are papilionaceous, yellow, odourless, four petalled. Style is white, theca-shaped, divided above into filaments provided with saffron apices, one of which stands out above the apices. Calyx is made up of four leaves.

Seed bearing capsules are oblong, round, short, enclosing three or four seeds, that are round, somewhat plain, first green, then turning dark then black and shining, serially connected and adhering within the capsule, to a green filament which stands out in the flower, and stretches out of the capsule in a curled manner.

(Its Uses)

The whole plant except the root powdered and ground in the whey of milk with "aerugine" (copper rust?) eradicates corns of the feet. The same powder with a bit of *pepper* and the juice of *Glycyrrhizae*, with hot water is given or is administered with fresh butter to those suffering from cough (to the Portuguese *Coceira de Garganta*).

Tijera-manni L.

ചെറുചെടി Mal.

Jata
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جھنڈا حبلی Arab.

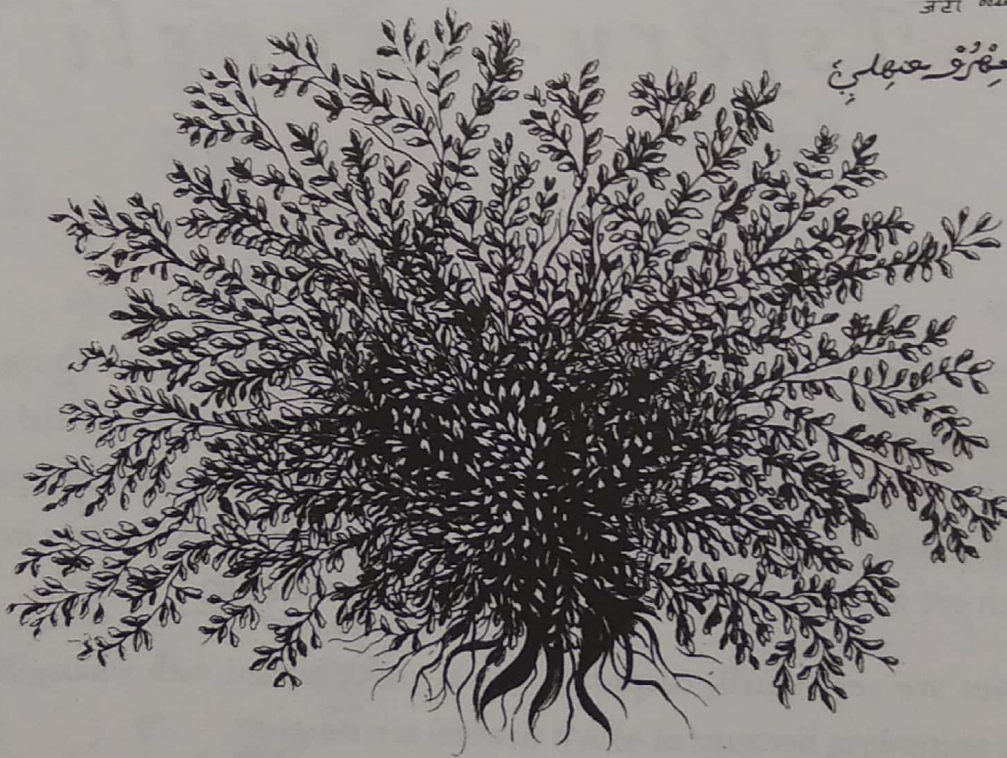


Fig. 39



Dentella repens (L.) J. R. & G. Forster, Char. Gen. Pl. 26, t. 13. 1775; Ridsdale in Manilal, Bot. Hist. Hort. Malab. 130. 1980; Manilal & Sivar., Fl. Calicut 139. 1982; Sasidh. & Sivar., Fl. Thrissur 219. 1996; Sivar. & Philip, Fl. Nilambur 320. 1997. - *Oldenlandia repens* L., Mant. 40. 1767 [RUBIACEAE].

Tsjeru-manelli Rheede, Hort. Malab. 9: 73, t. 39. 1689.

The name Cherumaneli [Malayalam script on t. 39] is still used; cheru means small and maneli refers to *Indigofera aspalathoides*. It grows throughout Malabar.



S u e n d a d i - p u l l u

FIG. 40



THE Plant likes sandy soil, of two or three feet in height. Root white, fibrous. Stalks round, green, hardly woody.

Flowers arise in slender petioles at times in threes, are oblong round, soft, smooth, of dark greenness on the upper surface. The mid-rib stands out on the lower side, striating the upper. Flowers are seen many clustered together on their own green petioles above the foliaceous pedicels, bent downwards, are small, papilionaceous, four petalled. The style is split into stamens provided with yellow heads, like a small theca, sending a filament through. Calyx green.

Oblong, black buds succeed the flowers, each one containing a single oblong round, yellow, light-red seed. This green plant is of no smell, when dry is of pleasing smell.

(Its Uses)

A very fragrant water is extracted from this plant. The fruit reduced to powder helps in the weakness of limbs.

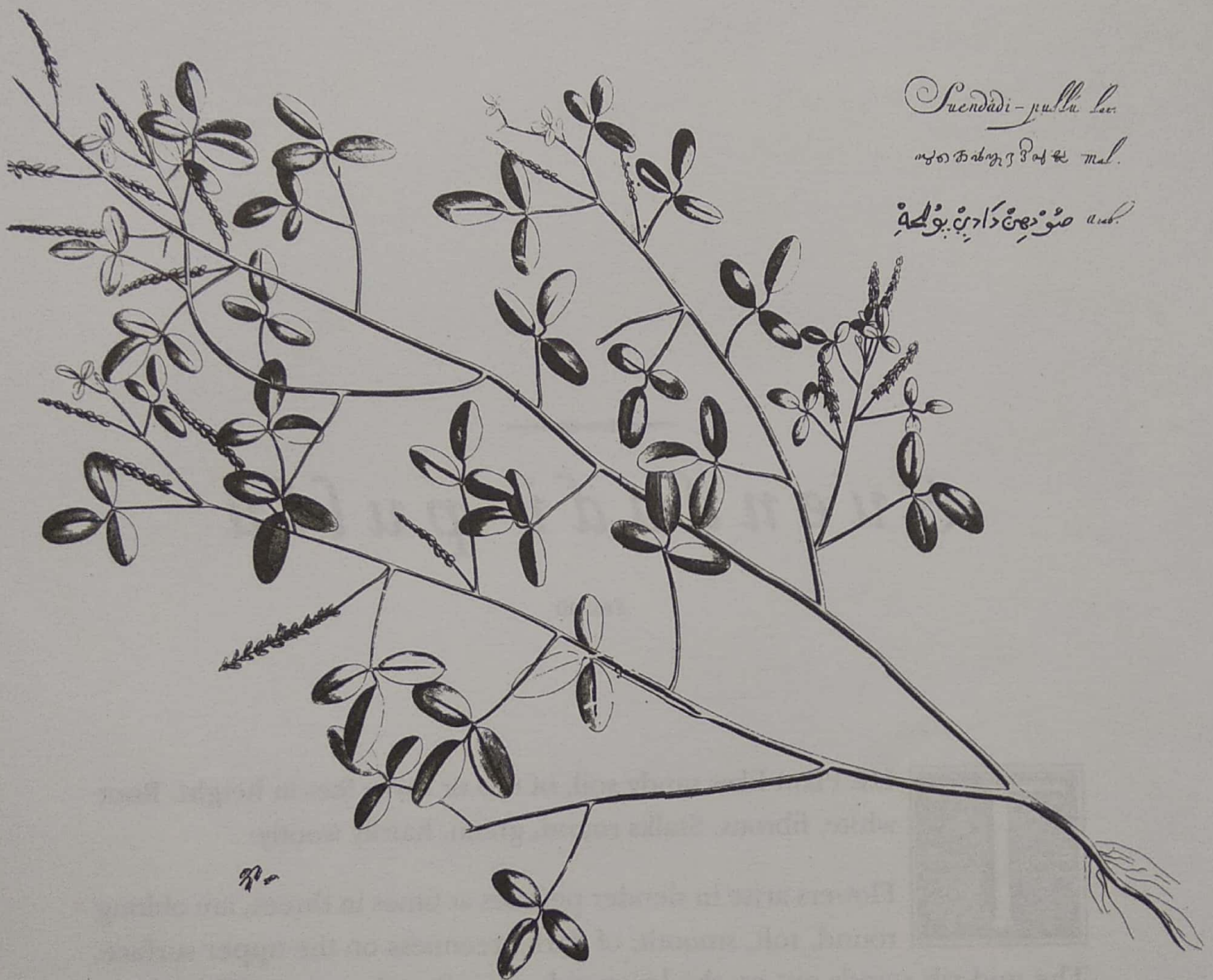


Fig. 40

Melilotus indica (L.) All., Fl. Pedem. 1: 308. 1785. - *Trifolium indicum* L., Sp. Pl. 765. 1753 (" *Trifolium M. indica*"). *Melilotus parviflora* Desf., Fl. Atlant. 2: 192. 1799 [FABACEAE].

Suendadi-pullu Rheede, Hort. Malab. 9: 75, t. 40. 1689.

The name Suthenthadipullu [Malayalam script on t. 40] is not used. Pullu refers to grass or (here) herb. The name is derived from "Sugandhakaari pullu", meaning a herb that has [gives out] a pleasant fragrance. This species is apparently not found in Malabar (was present earlier?) and no Malayalam name for this is currently known.



Coletta-ve etla

FIG. 41



IN the language of the Brahmins *Gontua*, is a plant of three or four feet, liking sandy and moist places. The root is surrounded by many woody fibres everywhere, and blackish. The stems and so also the branches are round, covered with a green, shining, glabrous bark, knotted, equipped at the nodes with lateral, green, slender, sharp, long spines.

Leaves arise in them two by two, each one on both sides accompanied by four spines each, in a decussate order, oblong-round, somewhat cuspidate, thick, smooth, glabrous, of dark and shining colour: of bitter taste. The ribs are pronounced on the lower side, so also the flowers three, four each, chiefly to the tip of the shoots; coming out with a long, yellow, five petalled, devoid of smell.

The style in the middle is slender, and white, and with it four yellow stamens, inserted to the lower part of the neck, two are more erect and thick, tipped with yellow, erect, thick apices, two short and hanging down, hidden lower in the neck.

When the flowers have fallen, oblong, compressed, seed-bearing capsules follow, with the side hardly convex, and contracted into an oblong tip, are rigid, woody, with the bark inside turning white, which (bark) is covered with a green skin; striated in the middle of the compressed sides and in the margins, with sutures. In each capsule are found two seeds in their own locules,

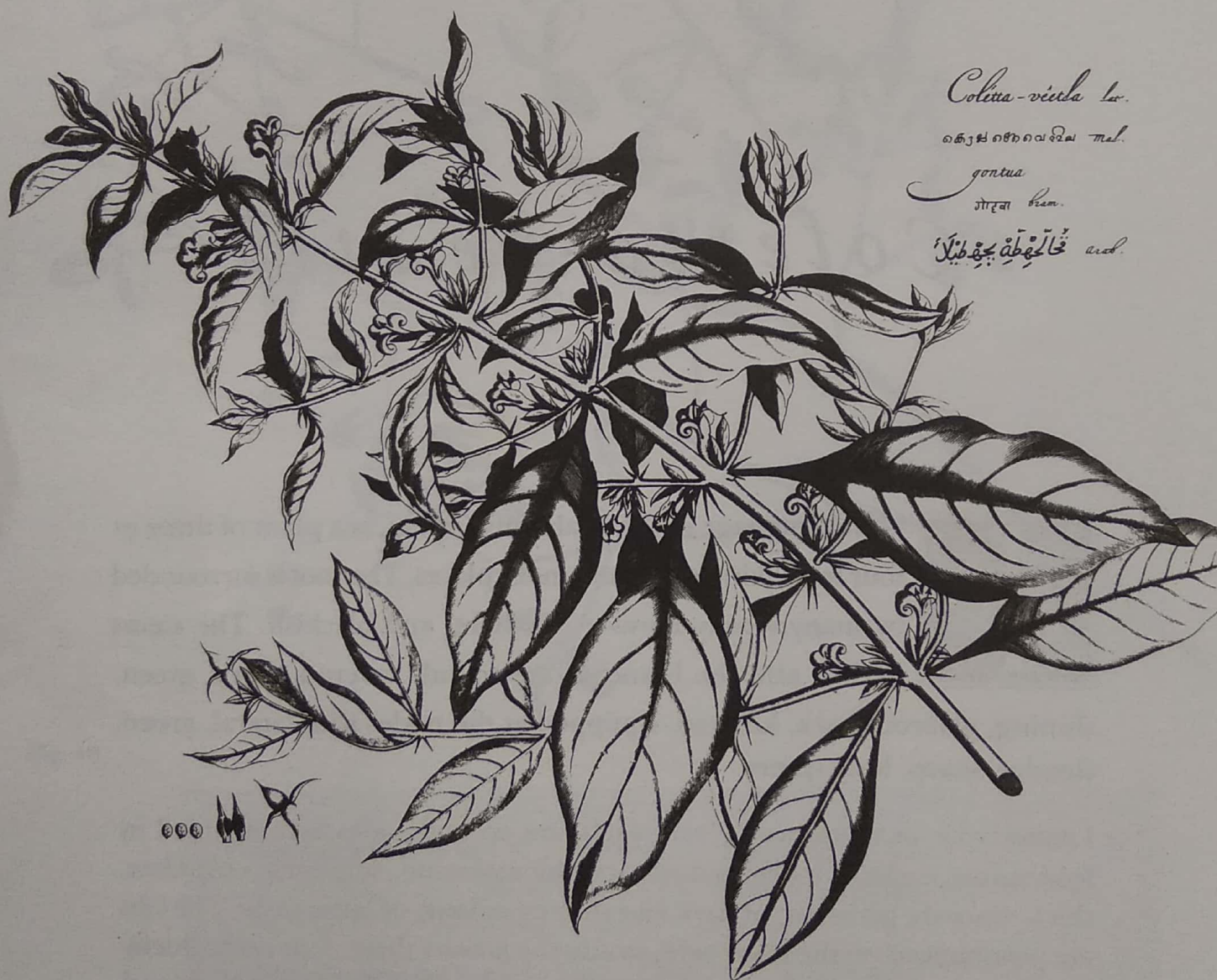


Fig. 41

separated mutually by woody, thick, partition walls, are round, hardly oblong, is plain on one part by which they lie near to the partition, the other somewhat convex, of from whitish to light red and shining colour, of bitter taste.

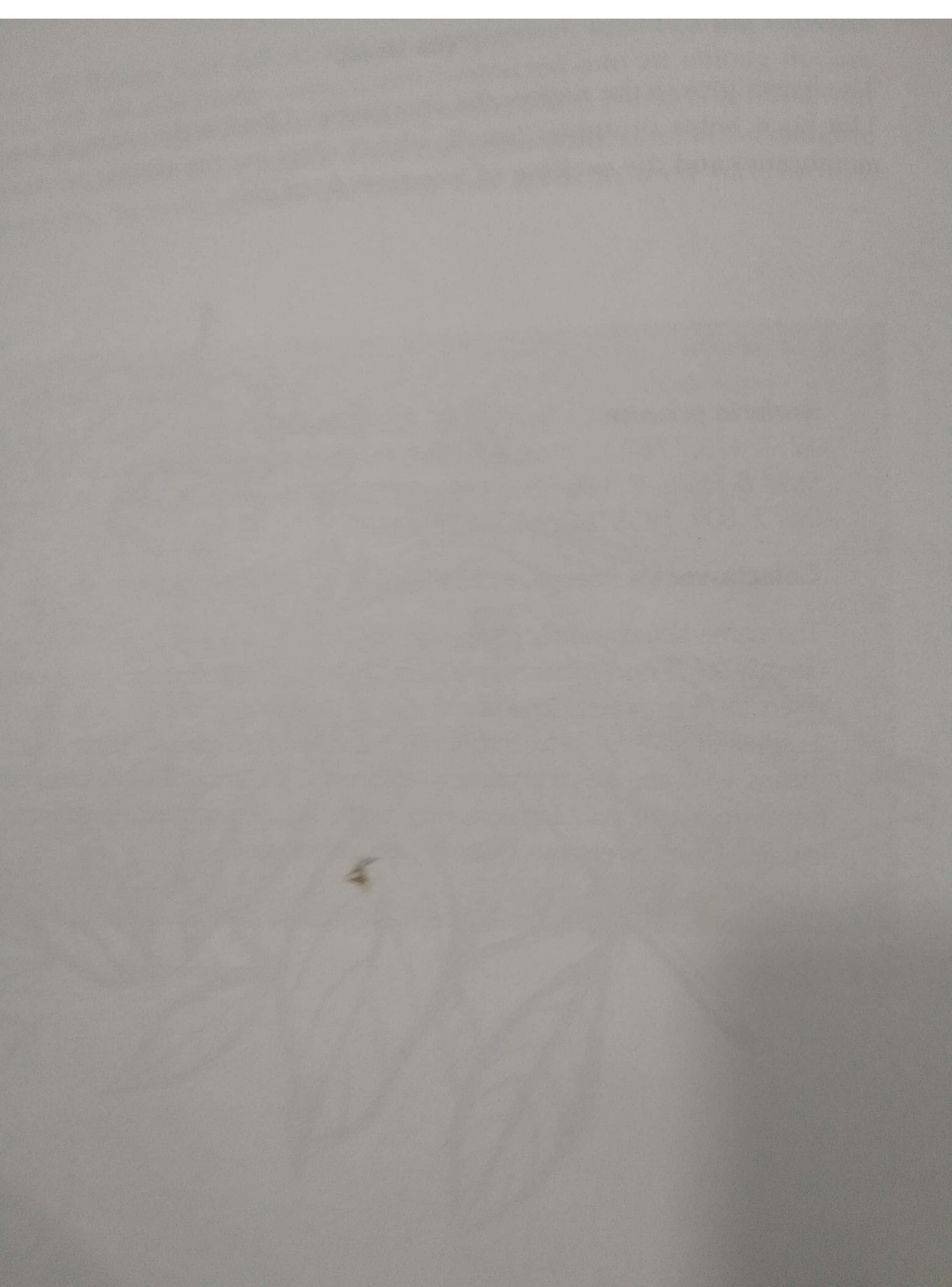
(Its Uses)

The leaves give to the natives the alternative of *Betel* in the eating of *Arequa*. The juice helps in aphtis (small, whitish ulcer on the surface of mucous membrane) and the swelling of intestines from gas.

Barleria prionitis L., Sp. Pl. 636. 1753. -*Barleria hystrix* L., Syst. Nat. ed. 12, 2: 425. 1767; L., Mant. 89. 1767; Manilal & Sivar., Fl. Calicut 220. 1982; Sivar. & Philip, Fl. Nilambur 494. 1997. *Prionitis hystrix* (L.) Miq., Fl. Ned. Ind. 2: 809. 1858 [ACANTHACEAE].

Coletta-veetla Rheede, Hort. Malab. 9: 77-78, t. 41. 1689.

The name Kollethevettla [Malayalam script on t. 41] is not used; kollethe (literally "of Quilon") refers to the place Quilon [also called Kollam] and vettla refers to *Piper betle* L., used for chewing; allusion is to the use of its leaves as an alternative for betel leaf. Today it is called Kattukanakambaram; kattu means wild and kanakambaram refers to *Crossandra infundibuliformis* (kanakam means gold and ambaram means sky). It is sometimes cultivated and also found as escapes in some parts of Malabar.





Vada - Kodi

FIG. 42



ADA-KODI; in the language of the Brahmins, *Kalo Adulusso*, is a plant of three or four feet in height, choosing sandy and hard soil. Root fibrous, white; stems, so also branches are round, with black or also saffron-black-shining bark, knotted, bulging out at the origin (base) of the branches; the core inside is white and spongy.

Leaves are seen in nodes two by two on short pedicels, plain inside, which are saffron black and reddish, in a decussate order, are oblong-narrow, contracted into an oblong, narrow tip, solid and soft in texture, with a glabrous surface, of light green colour. Saffron-black, reddish and shining mid-rib stands out on both sides, mostly in the lower surface.

Flowers arise many clustered together, in the nodes, at the tip of shoots, in each (node) three or four, their neck is white and bifoliate, of which one is erect, more narrow and cuspidate, on the outside with a rib standing out and bulging, white, striated inside with red-purple veins, the other more broad, turned towards the outside, interiorly cut into three ligules, on the outside, equipped with three ribs from the venter of the neck the middle one of which

is more thick and stands out high and runs towards to the middle ligule of the broader leaf, the two others are produced towards the lateral ligules; on the inside striated with folds, covered reticulately with veins from the mid-



Fig. 42

rib, marked inside with red-purple lines towards the tip. They have in the middle two white stamens, lying beside the erect leaf, tipped with light yellow apices. The style is white from purple, coming out from an oblong outgrowth of black, purple and shining colour. Calyx has five cuspidate leaflets.

In each calyx a single, oblong, somewhat plain seed is seen, covered in the middle with a pronounced nerve-let, finally turning darkly reddish.

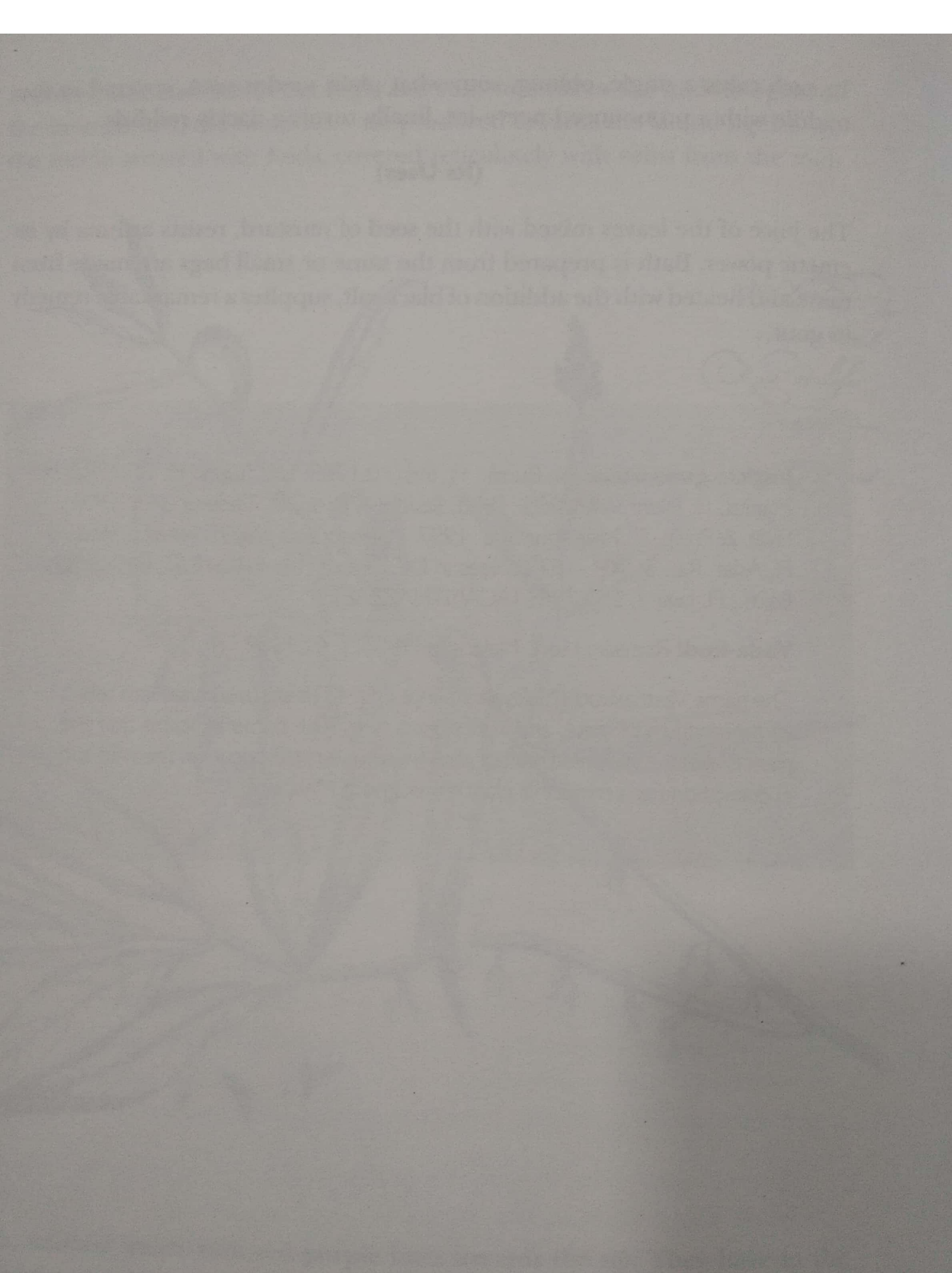
(Its Uses)

The juice of the leaves mixed with the seed of mustard, resists asthma by its emetic power. Bath is prepared from the same or small bags are made from these and heated with the addition of black salt, supplies a remarkable remedy in gout.

Justicia gendarussa N. Burm., Fl. Ind. 10.1768; L.f., Suppl. Pl. 85.1782; Manilal, Fl. Silent Valley 205. 1988; Sasidh. & Sivar., Fl. Thrissur 341. 1996; Sivar. & Philip, Fl. Nilambur 508. 1997. - *Gendarussa vulgaris* Nees in Wall., Pl. Asiat. Rar. 3: 104. 1832; Nees in DC., Prodr. 11: 410. 1847; Backer & Bakh., Fl. Java 2: 590.1965 [ACANTHACEAE].

Vada-kodi Rheede, Hort. Malab. 9: 79-80, t. 42.1689.

The name Vaathakkodi [Malayalam script on t. 42] is still used; vaatham refers to rheumatism or gout; and kodi means twig. The name indicates that the plant is useful in the treatment of gout (rheumatism). It occurs in the wild and in cultivation (as a medicinal plant) throughout Malabar.





Adel-odagam

FIG. 43



IN the language of the Brahmins *Adulasso*, is a plant from the genus of thickets, growing in sandy soil, up to the height of a man (human size). Many stems arise from the root, which, as also the older branches are ash-coloured, the tender ones are green and knotted, wood white.

Leaves arise two by two at the nodes in the branches, on small pedicels, furrowed, inside, oblong-narrow, in the margin cut at random by very thin curves, narrowed into an oblong tip, soft, smooth, plain, of dark greenness, of bitter taste. The mid-rib stands out on the lower part.

Flowers arise many crowded together, on green petioles, striated on the inside, which emerge from nodes above the origin of leaves, surrounded (girded) by short, cuspidate leaves; are totally white, consisting of short, cuspidate leaves; are totally white, consisting of a short, broad and somewhat plain neck, and with two oblong erect and mutually turned petals, one of them tapers and is hollowed out, on the outside covered with a white rib which runs into the tip, the other is plain, deeply cut into three flaps or ligules above, provided in

the middle with a rib which runs out into the middle ligule, striated reticulately by lateral veins, curled and transparent. In these are two white, thick stamens provided with large, green apices, lying near the hollow leaf; with them, the thick, white style emerges from an oblong, green globule, situated in the calyx, which is light having five oblong-cuspidate leaves.

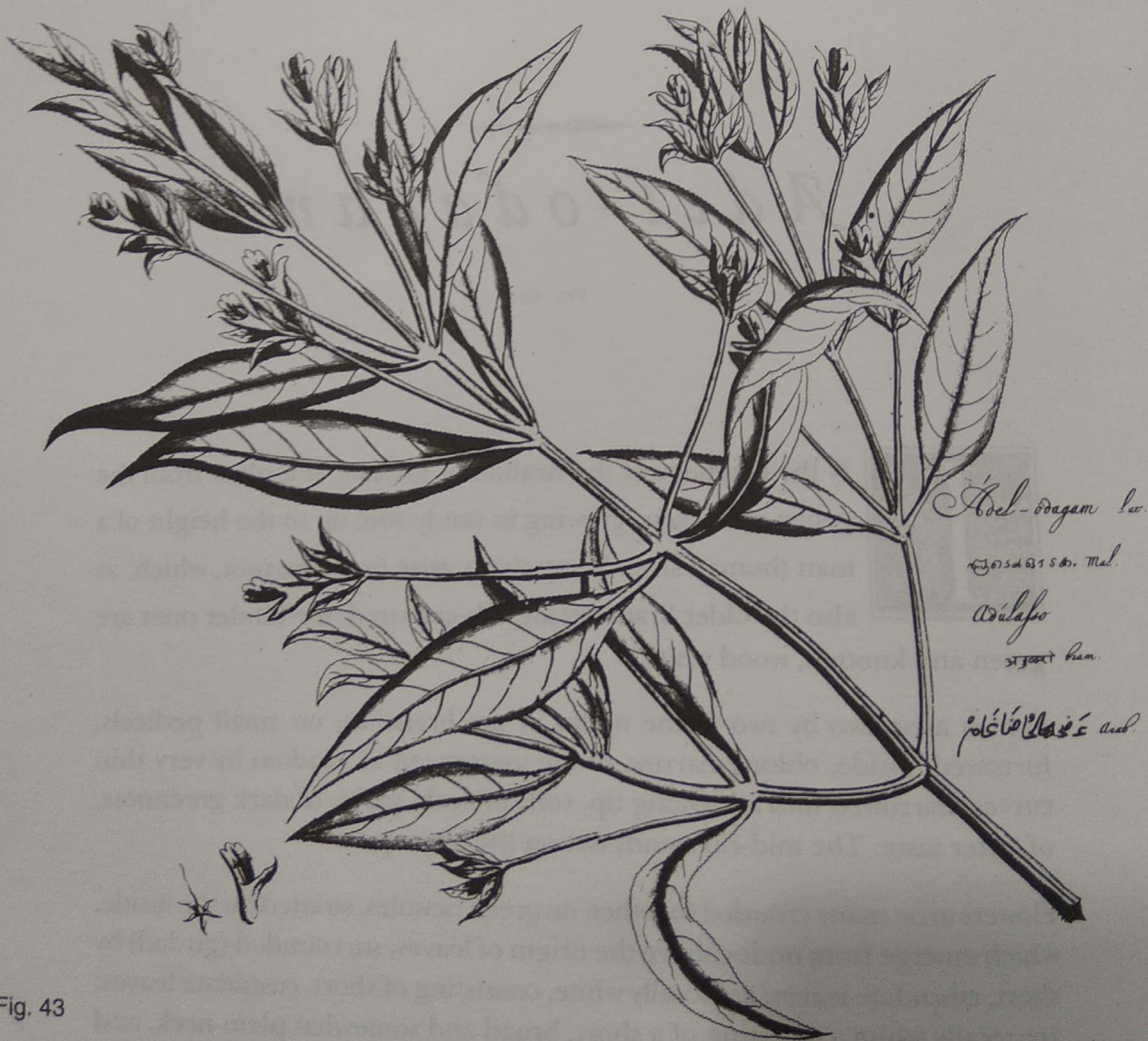


Fig. 43

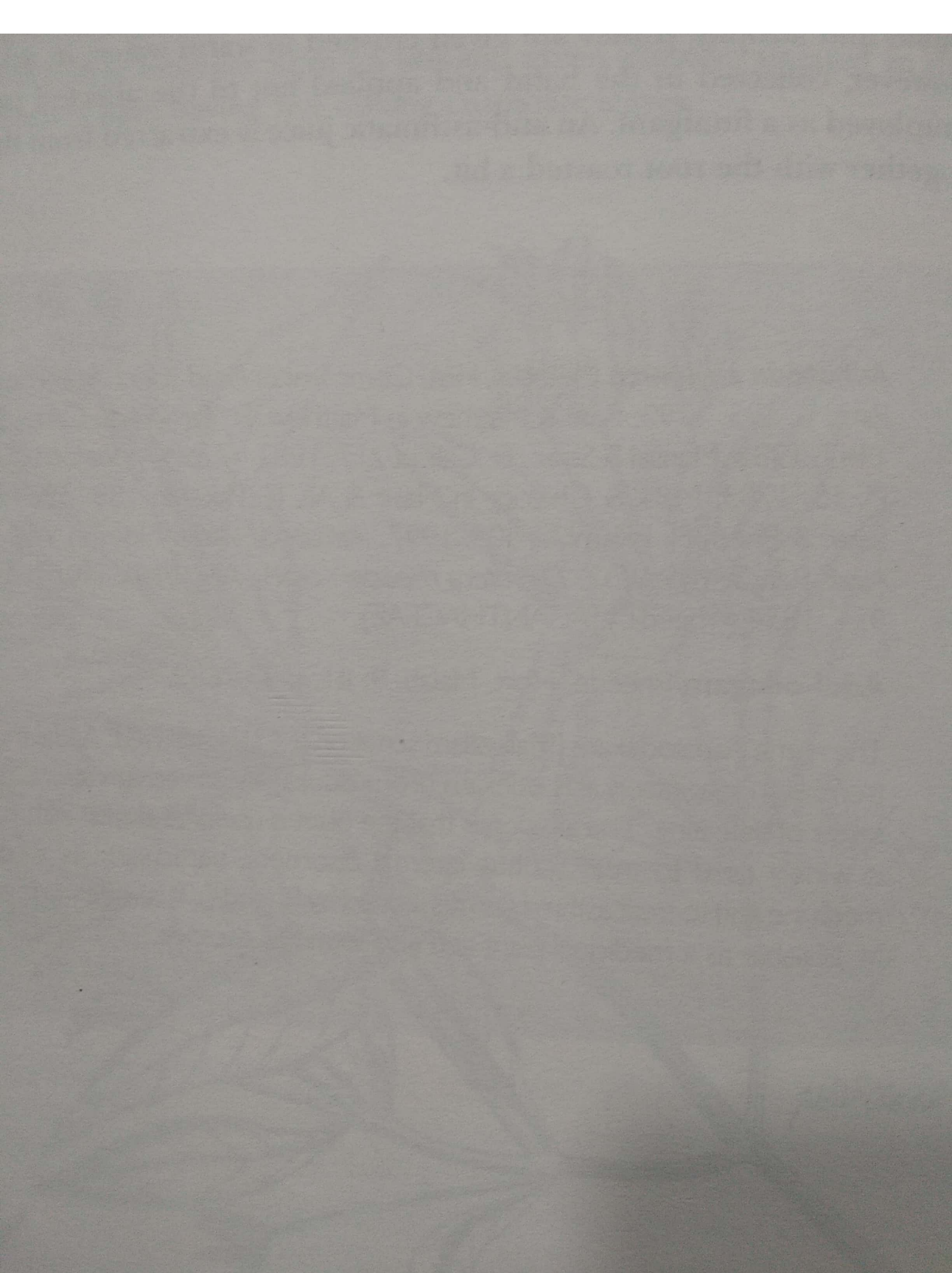
(Its Uses)

The power of the leaves shines forth in lunar asthma, cough, spitting of blood and atrophy, if they are given crushed in warm water; in arthritis, if however, collected in the hand and applied hot to the affected part or is employed as a fumigant. An anti-asthmatic juice is extracted from the leaves together with the root roasted a bit.

Adhatoda zeylanica Medicus, Hist. Commentat. Acad. Elect. Sci. Theod.-Palat. 6: 393. 1790; Rani & Matthew in Matthew, Fl. Tamilnadu Carn. 3(1): 1147. 1983; Manilal & Sivar, Fl. Calicut 217. 1982. -*Justicia adhatoda* L., Sp. Pl. 15. 1753; Malik & Ghafoor in Nasir & Ali, Fl. Pakistan 188: 39. 1988; Sivar. & Philip, Fl. Nilambur 505. 1997. *Adhatoda vasica* Nees in Wall., Pl. Asiat. Rar. 3: 103. 1832. *Dicliptera rheedei* Kostel., Alg. Med.-Pharm. Fl. 3: 934. 1834 ("rheedii") [ACANTHACEAE].

Adel-odagam Rheede, Hort. Malab. 9: 81, t. 43. 1689.

The name Aadalodekam [Malayalam script on t. 43] is still used; Aadal means trembling or agitation and odekam (from oduka) means to run away, in the sense of defeating. The allusion is that the plant is useful to defeat asthma. It is widely used to treat various internal disorders, particularly as a cough medicine and to treat asthma (as mentioned by Rheede). It is widely cultivated in Malabar as a medicinal plant and also found as escapes.





Katukarivi

FIG. 44



HIS plant is called *Rana Dadumari* by Brahmins, grows in sandy soils. Stalks are square, knotted, bulging out at the origin of branches, beset with hirsute and rough hairs.

Leaves arise in pairs at the nodes, mutually decussate, girding below the stalks in a winged manner, oblong narrow, cuspidate, slender, soft, very smooth like silk, in the margins covered with very minute hairs. The rib pronounced on the lower side, turns red.

Flowers are attached at the tips of branches with their own angular, hairy pedicels, are monopetalous, irregular (dissimilar) incised into three ligules and in them from red to blackish, in the neck inside whitish, so also on the outside, but in the same place striated with red veins, in the back of the neck, on the outside turning red. The style is erect, plain, by which it is turned to the white more narrow leaf, on the inside striated with red veins. Its head is black and level beset with a yellow crest up to the tip, lower down hairy with white hairs. Flower buds, oblong hairy.

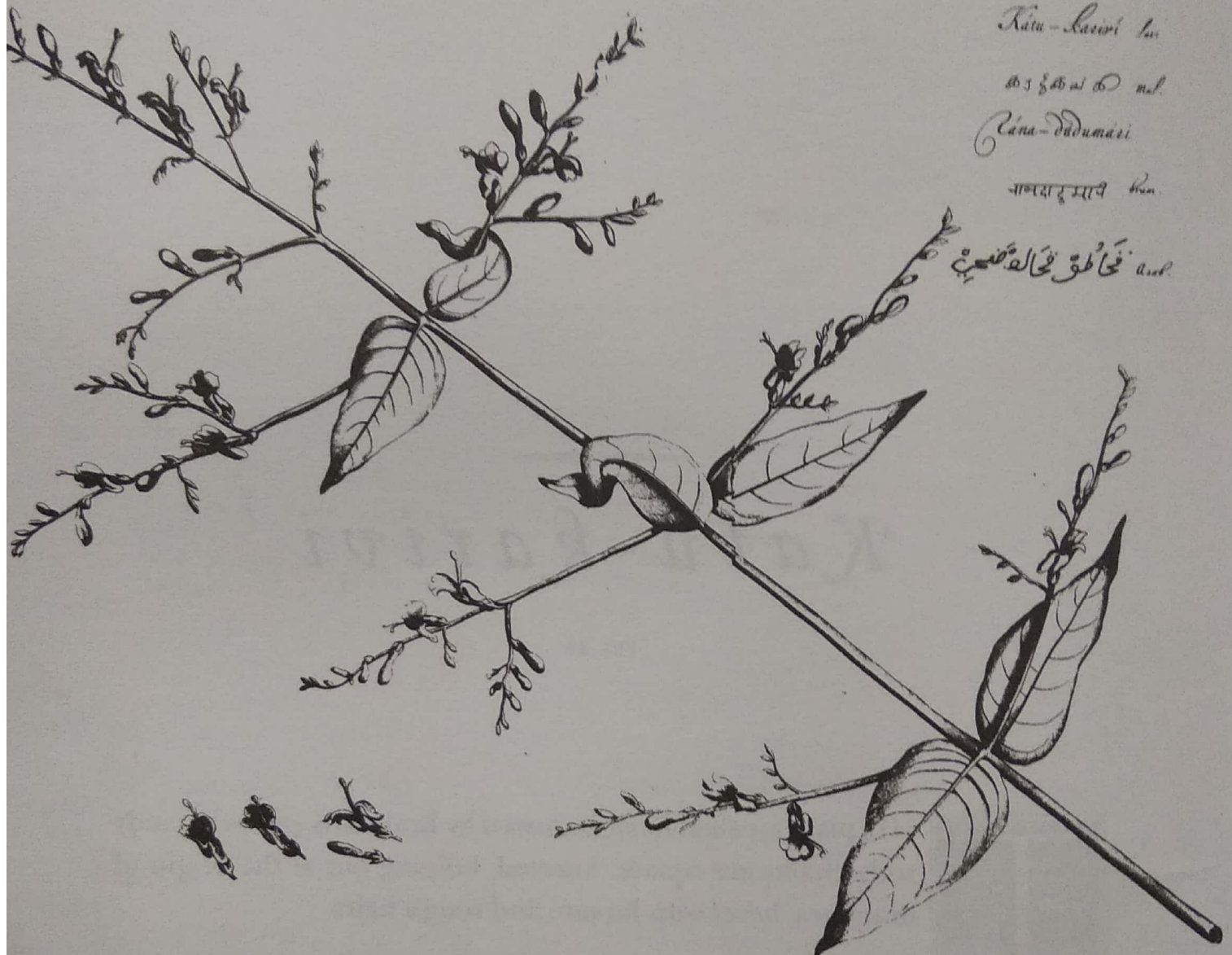
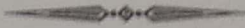


Fig. 44

Andrographis atropurpurea (Dennst.) Alston ex Mabb., Taxon 26: 539. 1977; Sivar. & Philip, Fl. Nilambur 489. 1997. -*Justicia purpurea* Dennst., Schlüssel 12, 22, 35. 1818. *Andrographis wightiana* Arn. ex Nees in DC., Prodr. 11: 517. 1847, nom. illeg. (incl. type of *Justicia purpurea* Dennst. 1818) [ACANTHACEAE].

Katu-karivi Hort. Malab. 9: 83, t. 44. 1689.

The name Kattukachati [Malayalam script on t. 44] is not used; kattu means wild but no meaning is known for kachati. Karivi means plough or implement. The allusion is not clear. No Malayalam name is currently in use for this plant. It occurs along forest margins throughout Malabar.



Valli-upu-dali

FIG. 45



Like the other (second) species, creeping with tortuous and procumbent shoots, enjoying sandy soil. Root white, fibrous, hard, woody. Stalks quadrangular, knotted, curved at the bendings, bulging out above the nodes, dark green, glabrous, beset with loose hairs sparingly.

Leaves arise two by two from the nodes, on long petioles, plain on the inside, larger like those of the first species, sprinkled with loose hairs, dark green.

Flowers hang from the tips of shoots, as if in one series, turned towards the anterior part, accompanied by very short, cuspidate leaflets at the origin of the peduncles in the nodes, are bell-shaped, leaping forth from the calyx by means of a very short, purple peduncle, almost five petalled, opening itself with two short petals at the back of the neck, which are bent towards the outside; at the venter with three, the middle one of which is more broad and standing out like a ligule; more deeply purplish than the others; covered with a nerve-let in the middle. striated to the ligule, in the back of the neck purple-deep red, in the venter lighter and whitish, on the inside sprinkled

with purple-red spots. Have four white stamens, the apices of which are bifid, white and mutually bent to themselves. The style is white, slender, bent above. Calyx is of five leaves.

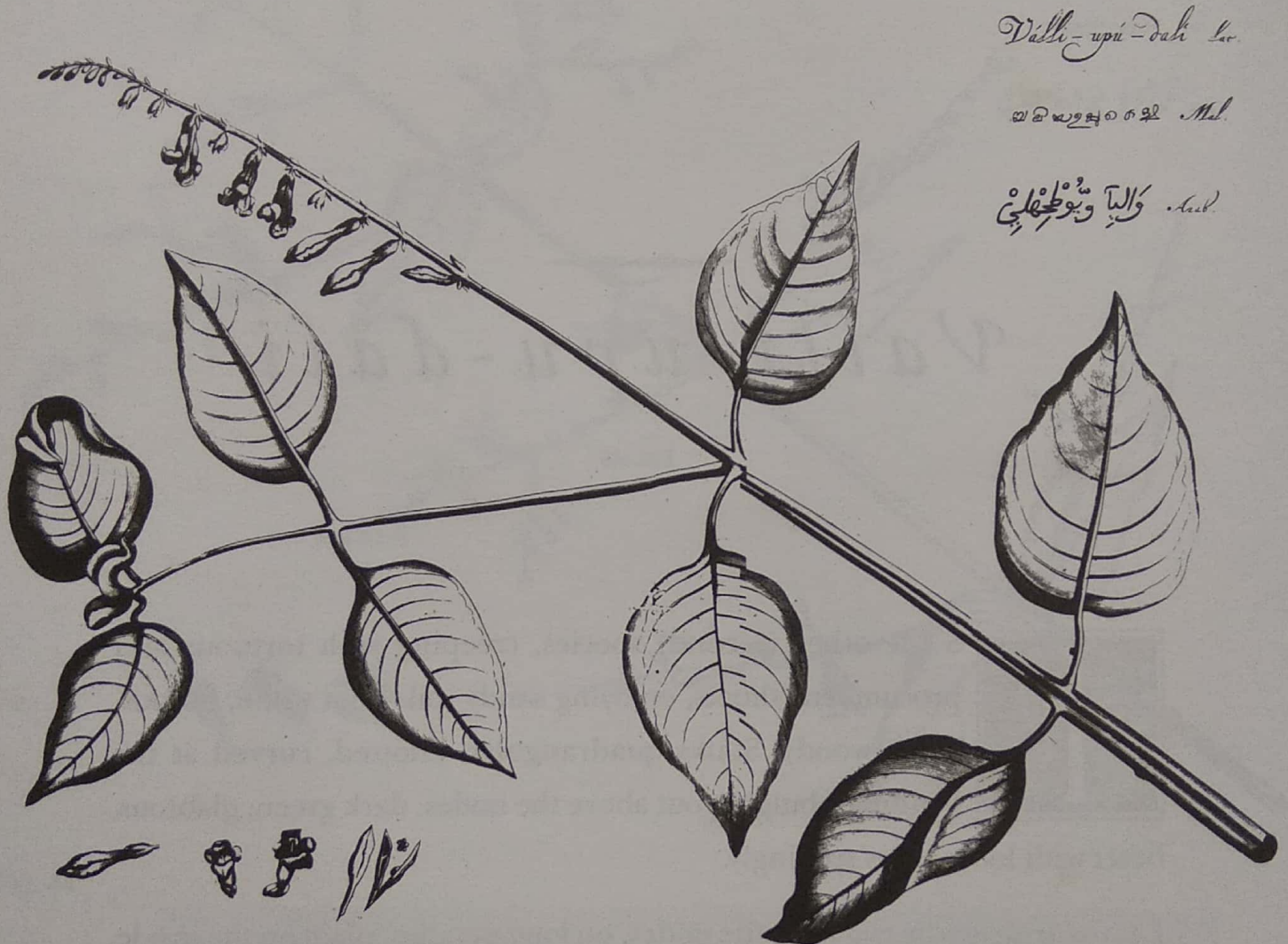


Fig. 45

The seed-bearing capsules like those of Upu-Dali, but larger, hairy, on the outside with hollow spaces because of the bulging out seeds, which are practically the same, but larger.

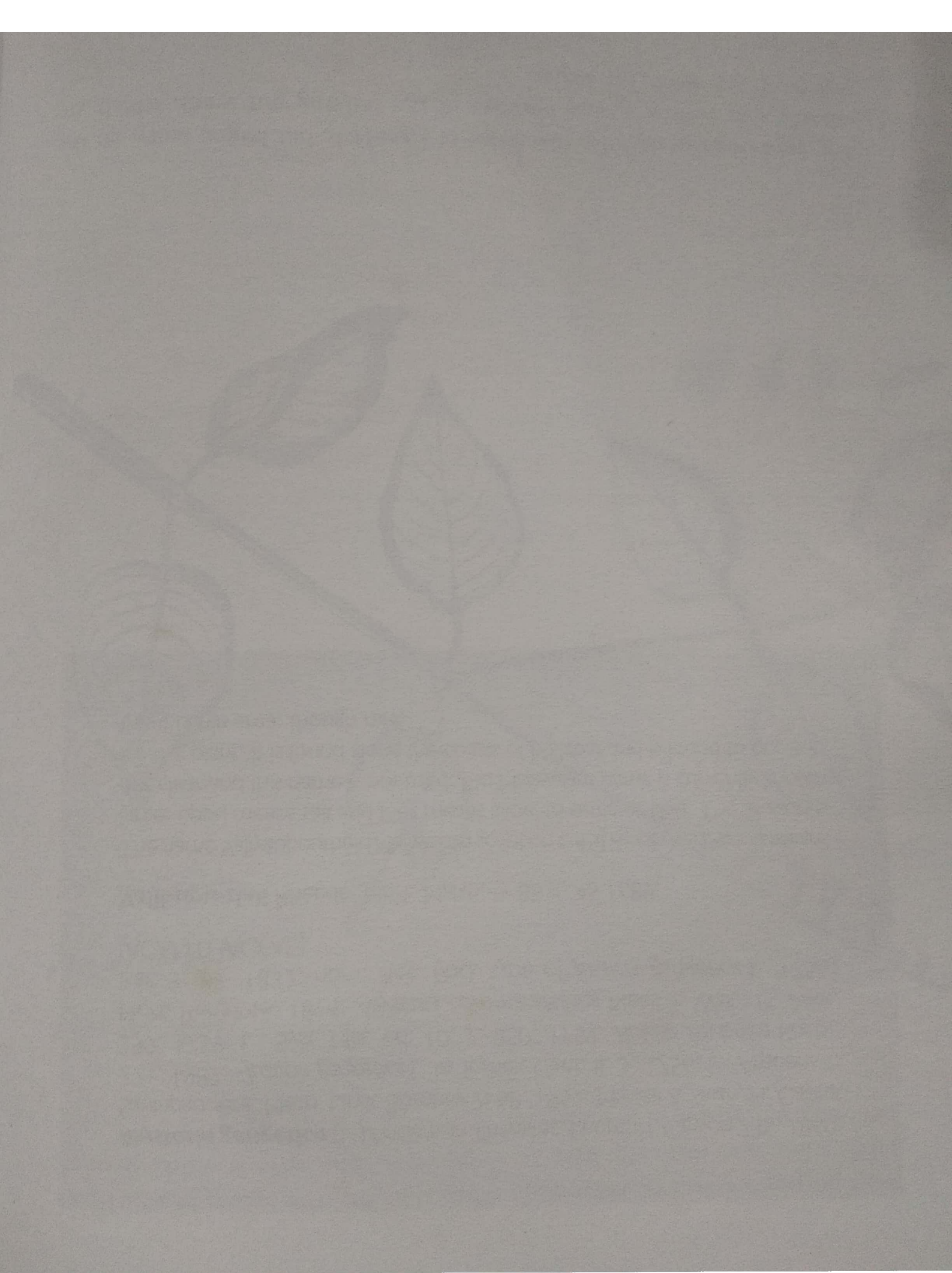
(Its Uses)

This plant is employed in the concoction of *Salis Nitri*.

Asystasia gangetica (L.) Anders. in Thwaites, Enum. Fl. Ceylon 235. 1860; Santapau, Bot. Mem. Univ. Bombay 2: 68. 1952; Manilal & Sivar., Fl. Calicut 221. 1982. -*Justicia gangetica* L. in Torner, Cent. II. 3. 1756; L., Amoen. 4: 299. 1759; L., Syst. Nat. ed. 10, 2: 850. 1759. *Ruellia zeylanica* Roxb., Hort. Beng. 46. 1814. *Asystasia coromandeliana* Nees in Wall., Pl. Asiat. Rar. 3: 89. 1832, nom. illeg. (incl. type of *Justicia gangetica* L. 1756) [ACANTHACEAE].

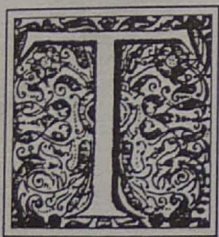
Valli-upu-dali Rheede, Hort. Malab. 9: 85, t. 45. 1689.

The name Valiyaupputheli [Malayalam script on t. 45] is not used; valiya means large, uppu means salt and theli means allow to settle or filter. The allusion is not clear and this name is not used. No Malayalam name is currently known for this plant. It is found along the coasts of Malabar and is found to occur in the Cochin area, though rare.



Pee - tum ba

FIG. 46



HIS plant is called *Butumbo* by the Brahmins, growing in humid places to the height of about three feet. Root white, fibrous, stalks are square, knotted, green, beset with white, long hairs, hardly woody.

Leaves are attached to the nodes in the middle of the sides in pairs and in decussate order, are oblong-narrow, rigid, hairy and rough somewhat closed towards the inside. The mid-rib thick, green-white, standing out on both surfaces with their sides, especially in the lower side.

Flowers arise on long petioles, which emerge in pairs from each node, of white-reddish colour. Seed-bearing capsules are oblong, level, woody, green, striated by a hollow suture, is made up of five oblong, very narrow erect, green and reddish leaflets, beset with white, shining, long hairs.

The seeds are placed in two locules, are oblong-round, plain. This plant is on the whole hairy, of pleasing, garden smell.



Fig. 46

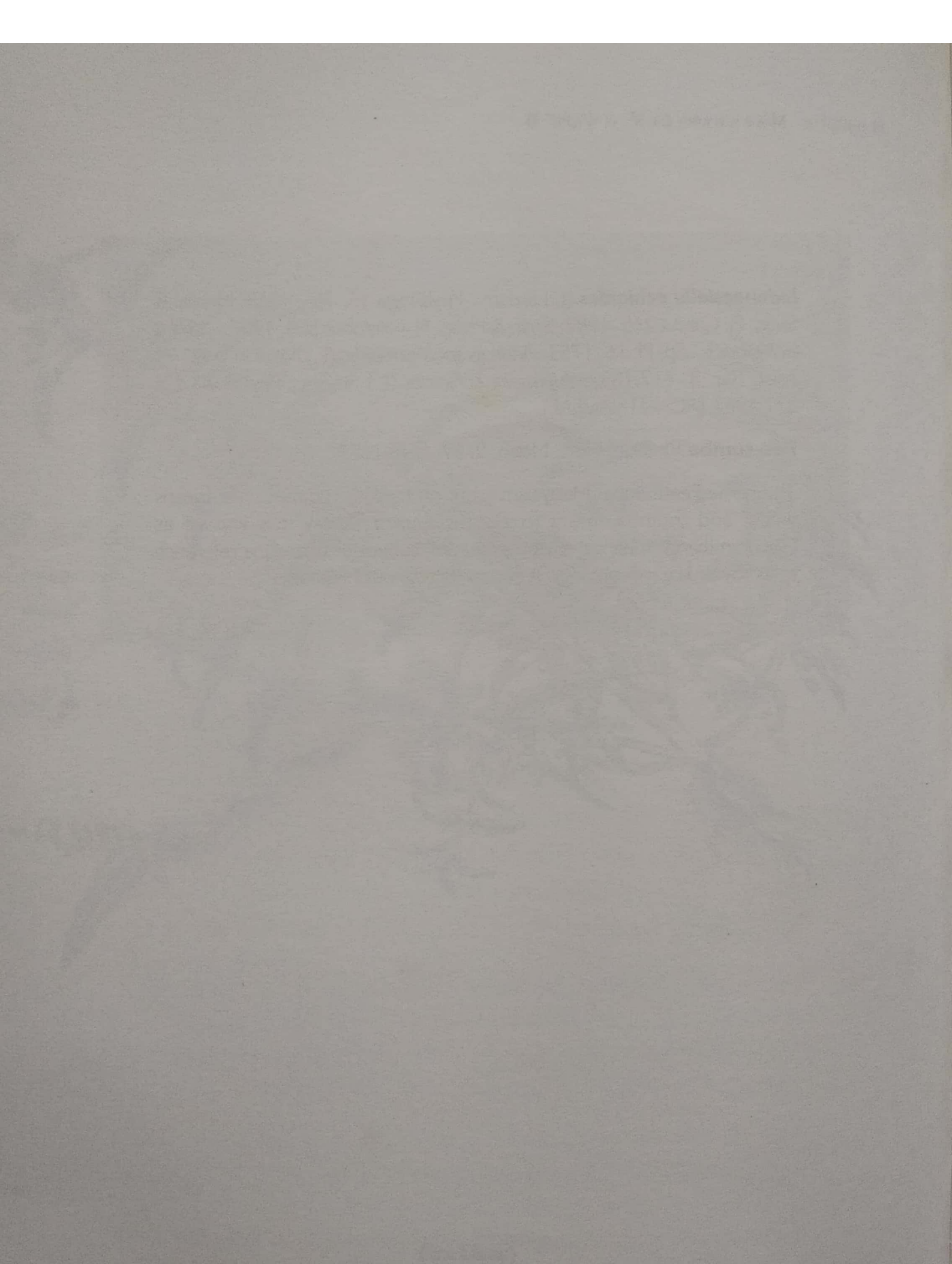
(Its Uses)

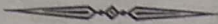
Ground leaves are alexipharmic (antidote to poison) against the poison of mad dog, namely when employed externally. The juice is something specific in cold fevers.

Indoneesiella echioides (L.) Sreem., Phytologia 16: 466. 1968; Manilal & Sivar., Fl. Calicut 215. 1982; Sivar. & Philip, Fl. Nilambur 504. 1997. -*Justicia echioides* L., Sp. Pl. 16. 1753. *Andrographis echioides* (L.) Nees in Wall., Pl. Asiat. Rar. 3: 117. 1832. *Neesiella echioides* (L.) Sreem., Phytologia 15: 271. 1967 [ACANTHACEAE].

Pee-tumba Rheede, Hort. Malab. 9: 87, t. 46. 1689.

The name Peethumba [Malayalam script on t. 46] is not used; pee means wild; and thumba refers to *Leucas aspera*. Today it is known as Gopuramthangi; meaning tower (gopuram) supporter (thangi), a reference to its tower-like morphology. It occurs throughout Malabar.





Onapu

FIG. 47

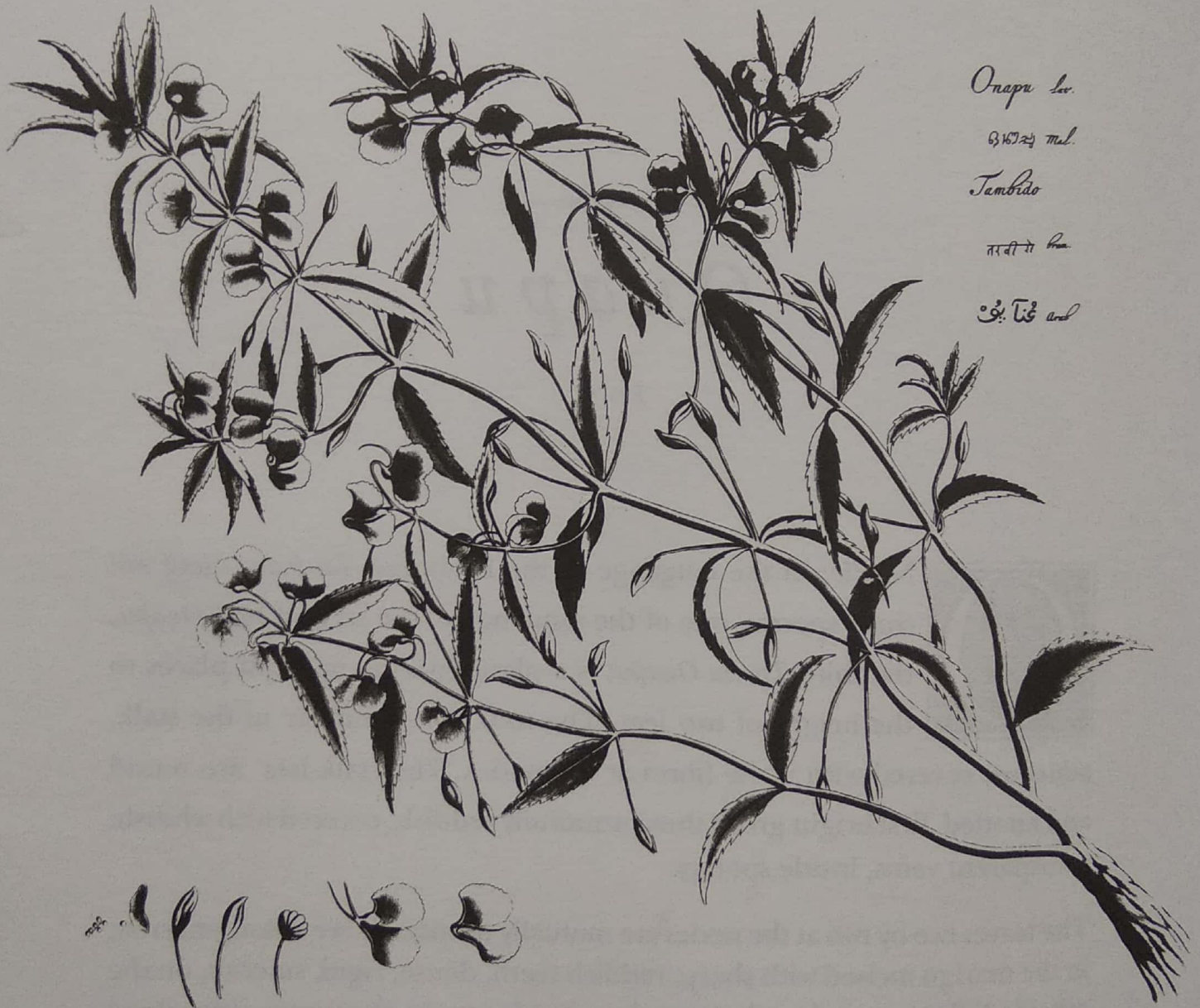


NAPU; in the language of the Brahmins *Tambido*: there are three species, one of the same name, the second *Valli-Onapu*, the third *Tsjeria Onapu*; is a plant growing in moist places to the height of two feet. The root not dissimilar to the stalk, aqueous, covered with white fibres at the nodes. The stalk-lets are round and knotted, first bright green then beautifully reddish, covered with whitish, transparent veins, inside spongy.

The leaves two by two at the nodes are mutually decussate, are oblong-narrow, in the margin incised with sharp, reddish teeth, dense, rigid, smooth, on the outside light green, the rib somewhat stands out on the upper side where they are dark.

Flowers which arise two or three and also more, on reddish, one of those is erect, standing out from the posterior part of the head of the petiole, small and round, on the outer part of red and shining colour and covered in the middle by a green rib: two oblong round and uniform, covering the helmet, by which they are bound together with the head of the petiole side ways by

means of narrow claws, each one putting forth a claw, the fourth one constitutes the helmet and it is oblong raised up (like a platform) membranous, transparent, transversely striated with deeply red veins, transparent on the outside with its colour, giving out a claw from the backside.



Onapa le.

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Fig. 47

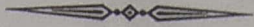
The fruit remains covered with a hood in the head of the petiole, reddish above, in the middle sprinkled with a white flour like powder, connected to the petiole by means of five thin, red membranes, and these fruits, which when the flowers fall away are also stripped of their hood, are oblong round, narrow, first dark green, then bright green, somewhat transparent, separated

into five oblong bounds by means of five furrows; from the genus of the sensitive, namely with a slight touch or pressure the trellises are loosened, then twist themselves into five rings with force, and throw their seeds out, and the upper tips of the trellis expand themselves widely, towards their lower parts, which are connected to the petiole; which rings become so stiff that their tips cannot be separated from the lower parts except by braking. Moreover in the fruits a straight and white style stands up, to which the seeds are attached, which are small, round, first white; then very black and shining.

Impatiens chinensis L., Sp. Pl. 937. 1753. -*Impatiens fasciculata* Lam., Encycl. 1: 363. 1785; Manilal, Fl. Silent Valley 39. 1988; Sasidh. & Sivar., Fl. Thrissur 77. 1996 [BALSAMINACEAE].

Onapu Rheede, Hort. Malab. 9: 89-90, t. 47. 1689.

The name Onapoo [Malayalam script on t. 47] is still used as a general term for *Impatiens*, derived from the fact that the flowering period (poo means flower) of the plant coincides with the time of the Onam festival in Malabar [August-September] and their flowers are also employed in making traditional floral decorations. This species occurs throughout Malabar.



Valli-onapu

FIG. 48



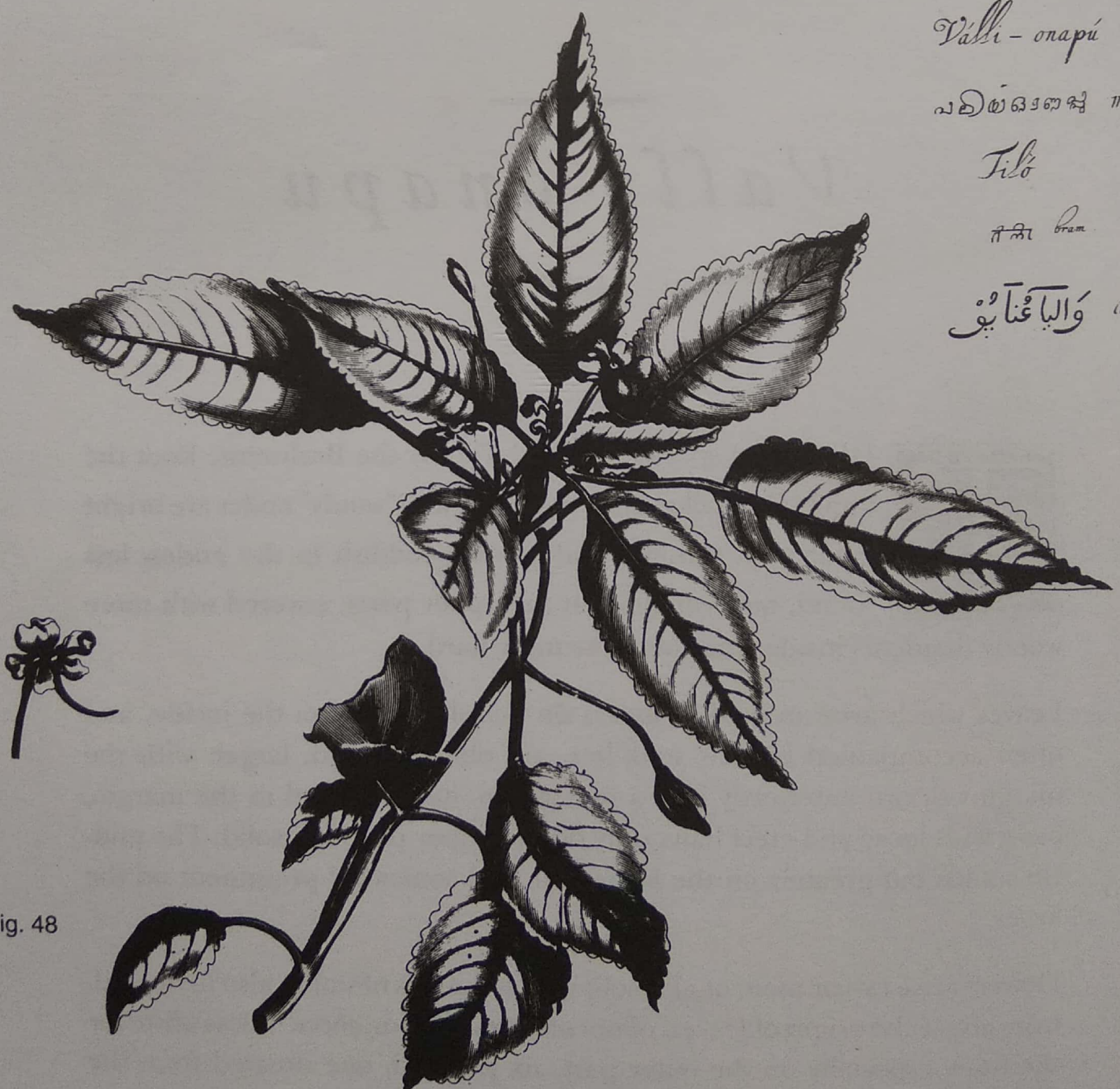
THE second species is called Tilo by the Brahmins. Root the same. The stalks which bulge out into "windy" nodes are bright green, not shining, and turning reddish in the nodes, less round, quadrangular in the upper parts, covered with more woody filaments inside, and therefore more hard.

Leaves which arise in twos in nodes on petioles plane on the inside, and often accompanied by new stalk-lets, are oblong-round, larger, with the margins drawn anteriorly into a narrow tip, much incised in the margin, beset with loose and erect hairs only on the upper part, less solid. The mid-rib stands out greatly on the lower side and somewhat prominent on the lower.

Flowers arise two or more or also solitarily at the tips of stalks, also helmeted, from above the origin of leaves, of not so strong colour, more or less white for the time, especially on the outer part, six petalled, one situated from the dorsal part of the head, is more broad and spoon-hollow on the inside, on the outside covered to the lateral (?) head of the petiole; the sixth one forms

the helmet, which is white and less oblong, with its own spar, bent towards a curved platform. Buds round and somewhat cuspidate.

Fruits, in the same manner, are covered with a hood, but it turns reddish, and turns yellow above, for the rest similar and also sensitive, but those (fruits) of the first (former) species are more narrow. Seeds are round, somewhat plain in shape, first white, covered with hairs.



Valli-onapú Sur.

എയ്ക്കേഴ് മാ!

Tilo

അി bram

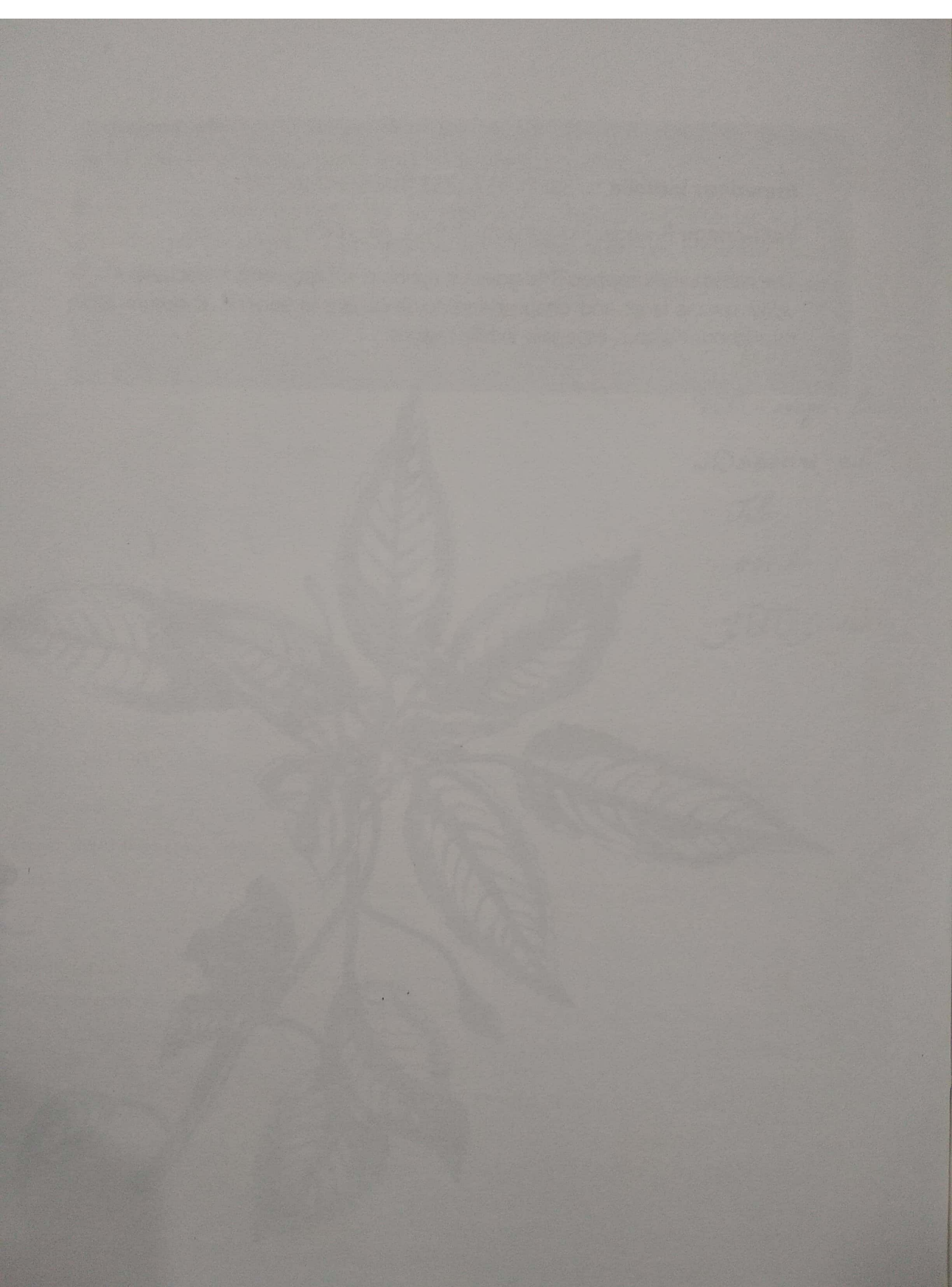
والبغناي Arab.

Fig. 48

Impatiens latifolia L., Sp. Pl. 937.1753 [BALSAMINACEAE].

Valli-onapu Rheede, Hort. Malab. 9: 91, t. 48. 1689.

The name Valiyaonappoo [Malayalam script on t. 48] apparently is not used; valiya means large and onapu refers to *Impatiens* in general. It occurs throughout Malabar, especially in hilly regions.





Tsjeria-onapu

FIG. 49.



THE third species is called Tilo by the Brahmins. Root the same. The stalks are more reddish.

Leaves are medium among the former species, beset with very minute hairs, especially in the tracts of the veins, at times covered with two small, light green outgrowths.

Flowers approach (come near to) those of the Onapu, but more pale, of four petals; the helmet (galea) is white, the spar green; the head of the petiole is yellow above.

The fruits also sensitive, more oblong and more narrow, from which the seeds bulge out here and there through the inner membrane.

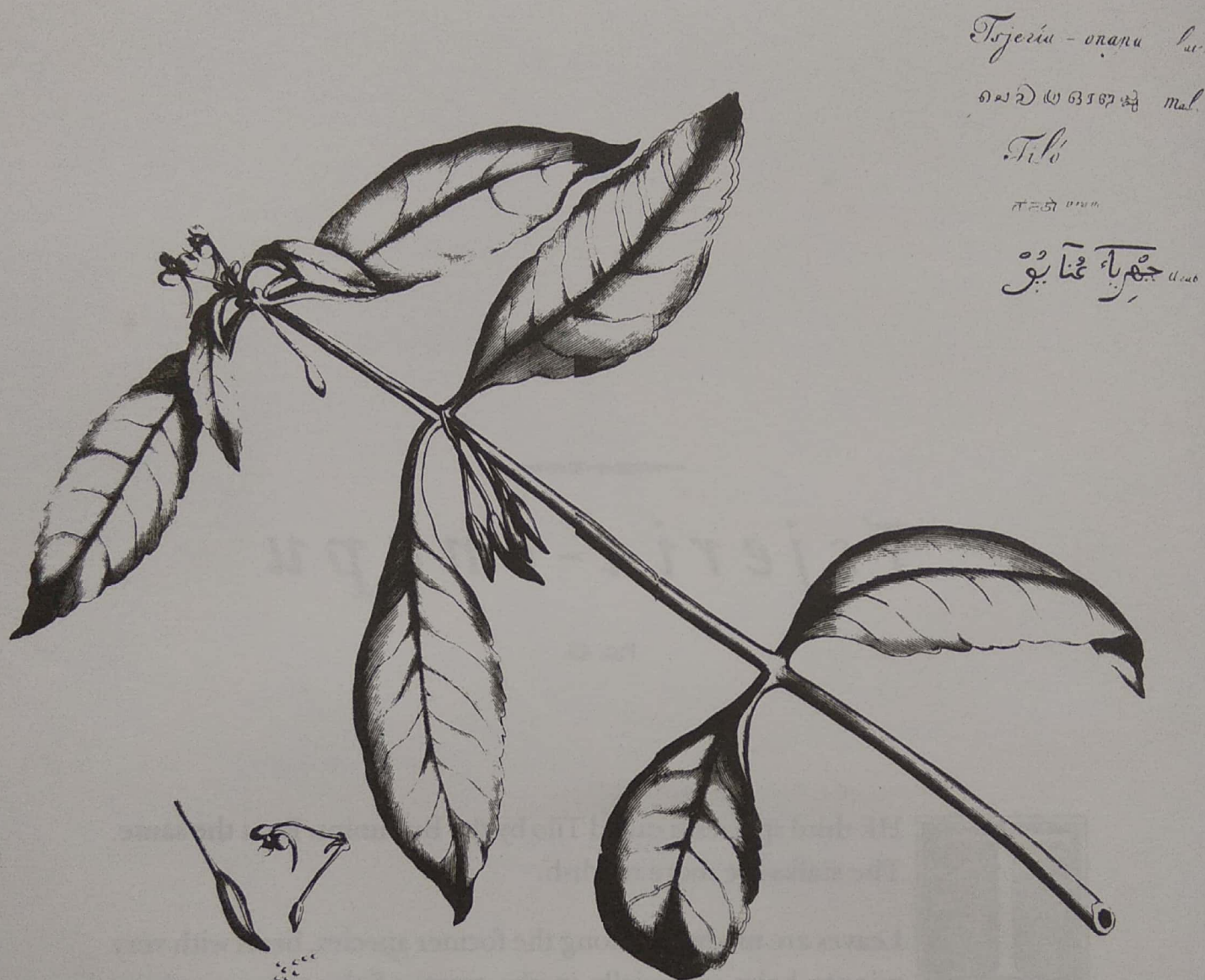


Fig. 49

Impatiens tilo (DC.) Suresh, in Nicolson et al, Interp. Rheede's Hort. Malab. 71. 1988. -*Balsamina tilo* DC., Prodr. 1: 686. 1824. *Impatiens rheedei* Wight & Arn., Prodr. 138. 686. 1834, nom. illeg. (incl. type of *Balsamina tilo* DC. 1824); Gamble, Fl. Pres. Madras 1: 140(100). 1915 [BALSAMINACEAE].

Tsjeria-onapu Rheede, Hort. Malab. 9: 93, t. 49. 1689.

The name Cheriyaonappoo [Malayalam script on t. 49] is no longer used; cheriya means small and onappoo refers to *Impatiens* in general. It has not been recently collected from Malabar but Gamble reports that it occurs in Malabar at low elevations.

Man-onapu

FIG. 50



S yet smaller Onapu, agreeing in everything except that the stalks are more reddish, leaves larger and more dark-green; flowers purple or red-blue in two leaves, fruits green and striated with dark-green veins; larger and more oblong.

Impatiens minor (DC.) Suresh, in Nicolson et al, Interp. Rheede's Hort. Malab. 71. 1988; Sasidh. & Sivar., Fl. Thrissur 78. 1996; Sivar. & Philip, Fl. Nilambur 118. 1997. -*Balsamina minor* DC., Prodr. 686. 1824. *Impatiens kleinii* Wight & Arn., Prodr. 140. 1834 [BALSAMINACEAE].

Man-onapu Rheede, Hort. Malab. 9: 95, t. 50. 1689.

The name Man-onapu appears without Malayalam script on t. 50; man (from vann) means large and onappoo is the general term for *Impatiens*. The reference may be to its large leaves. It is found along forest margin in northern Malabar.

Man-onapi L.

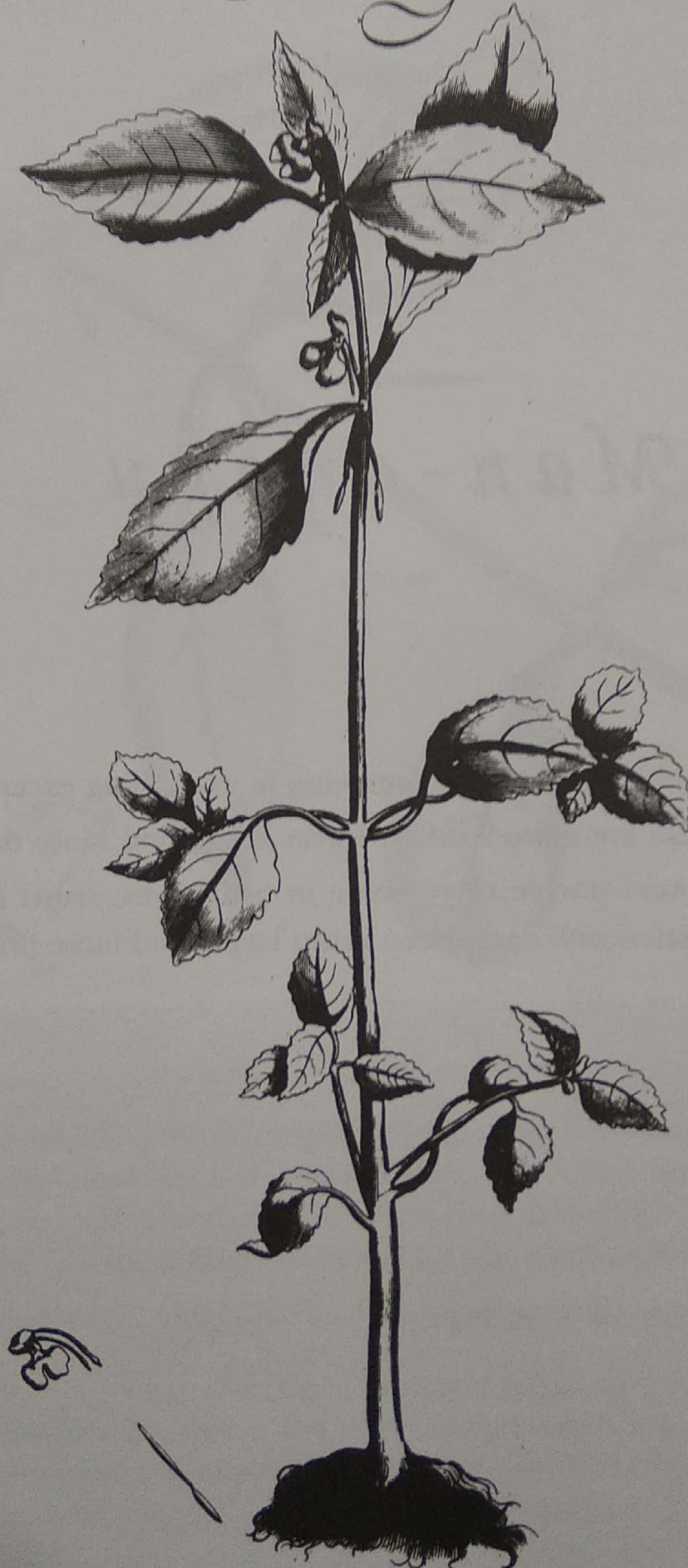


Fig. 50



Bellutta-onapu

FIG. 51



LS a species of smaller *Onapu*, growing in rocky soils. Root is formed of white and slender fibres. Stalks slender, round, aqueous, transparent, white, shining, knotted, giving out new stalk-lets from the nodes.

Leaves are seen in twos in the nodes of stalks, are oblong-narrow, drawing into a tip narrow towards the pedicel, incised in the margins with minute vein-lets wide apart, beset with hairs especially in the tracts of the veins. The rib is dark-green and shining, pronounced also on the upper surface.

Flowers arise on oblong, slender, white curved petioles in clusters in threes or also in fours, above the origin of leaves, are white, irregular, three petalled; two, towards which the capitulum of the petiole is bent, are more broad, are with narrow claws and there marked with a red spot; the third one is spoon shaped on the inside, on the outside hairy and light green; towards its origin (base) is a small, light green, net like, little sac, the green-white spur, going down into a curve (bent), bent from the petiole towards the two lateral leaves,

in the anterior part, supporting leaves at mutual contact. Buds are green, drawn into a tip, level towards the sides, the capitulum of the petiole green, provided with a yellow centre at the top.

Part 9. Tab. 5

Bellutta-onapu

മിശി
tilo

മിശി
tilo

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arab.

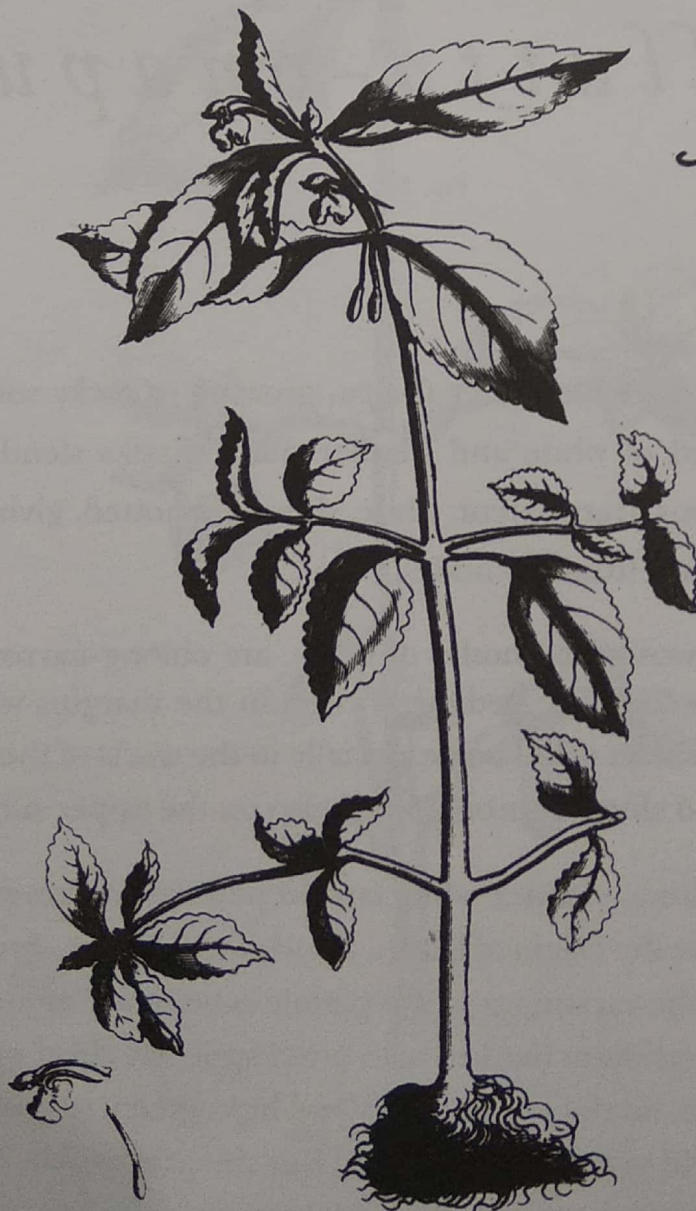


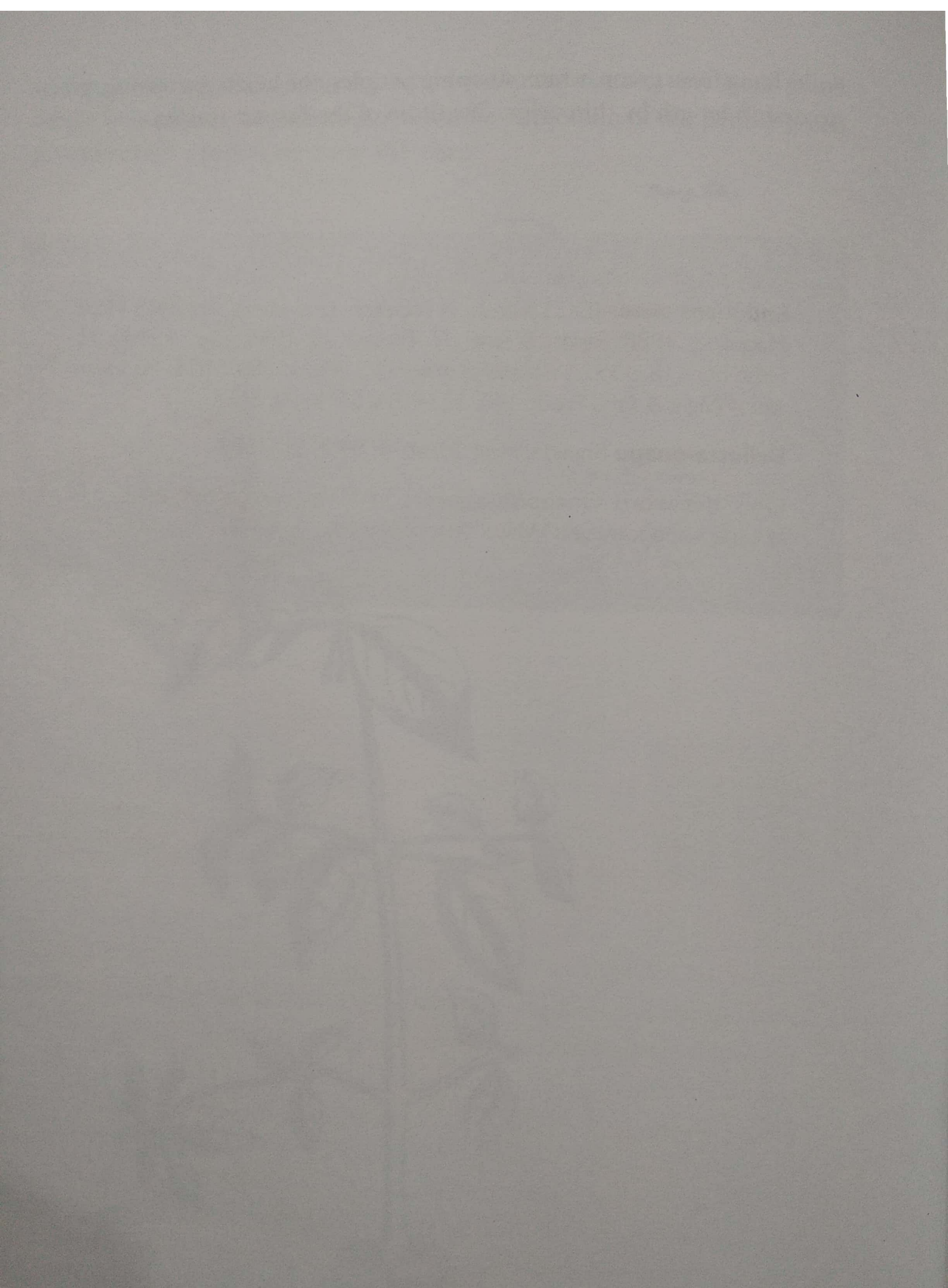
Fig. 51

Fruits hang from green, white, stooping petioles; the heads are oblong, green, striated in length by thin veins, like those of the former species.

Impatiens minor (DC.) Suresh, in Nicolson *et al*, Interp. Rheede's Hort. Malab. 71. 1988; Sasidh. & Sivar., Fl. Thrissur 78. 1996; Sivar. & Philip, Fl. Nilambur 118. 1997. - *Balsamina minor* DC., Prodr. 686. 1824. *Impatiens kleinii* Wight & Arn., Prodr. 140. 1834 [BALSAMINACEAE].

Bellutta-onapu Rheede, Hort. Malab. 9: 99, t. 51. 1689.

Only the word Onappoo appears in Malayalam script on t. 51. Veluthaonappoo means White Onappoo.



—♦—

Tilo-onapu
or
Notenga

FIG. 52



HIS plant of two or three feet grows in sandy soils. Stalks light-green, aqueous. Leaves oblong-narrow, cuspidate, in the margin closely crenate, slender, dark, on the upper surface beset with hairs, bitter.

Flowers are seen many together above the origin of leaves, are four petalled, with one erect and obtusely cuspidate, somewhat closed towards the inside, form white to light red, with two round, narrow, deep rose claws, reddish on the inside, transversely expanded over the fourth one, which is helmeted, placed on the back of the erect petal, white and of very light redness, gives out a green spur, curved from the petiole.

In the middle stands out a head covered with a rose coloured apex, primordium of the fruit, from the kind of the sensitive, which on touch loosen themselves (dehisce) with force and scatter the seeds like those of *Tilo*, from which however (they) differ that they are beset with thick and whitish hairs.

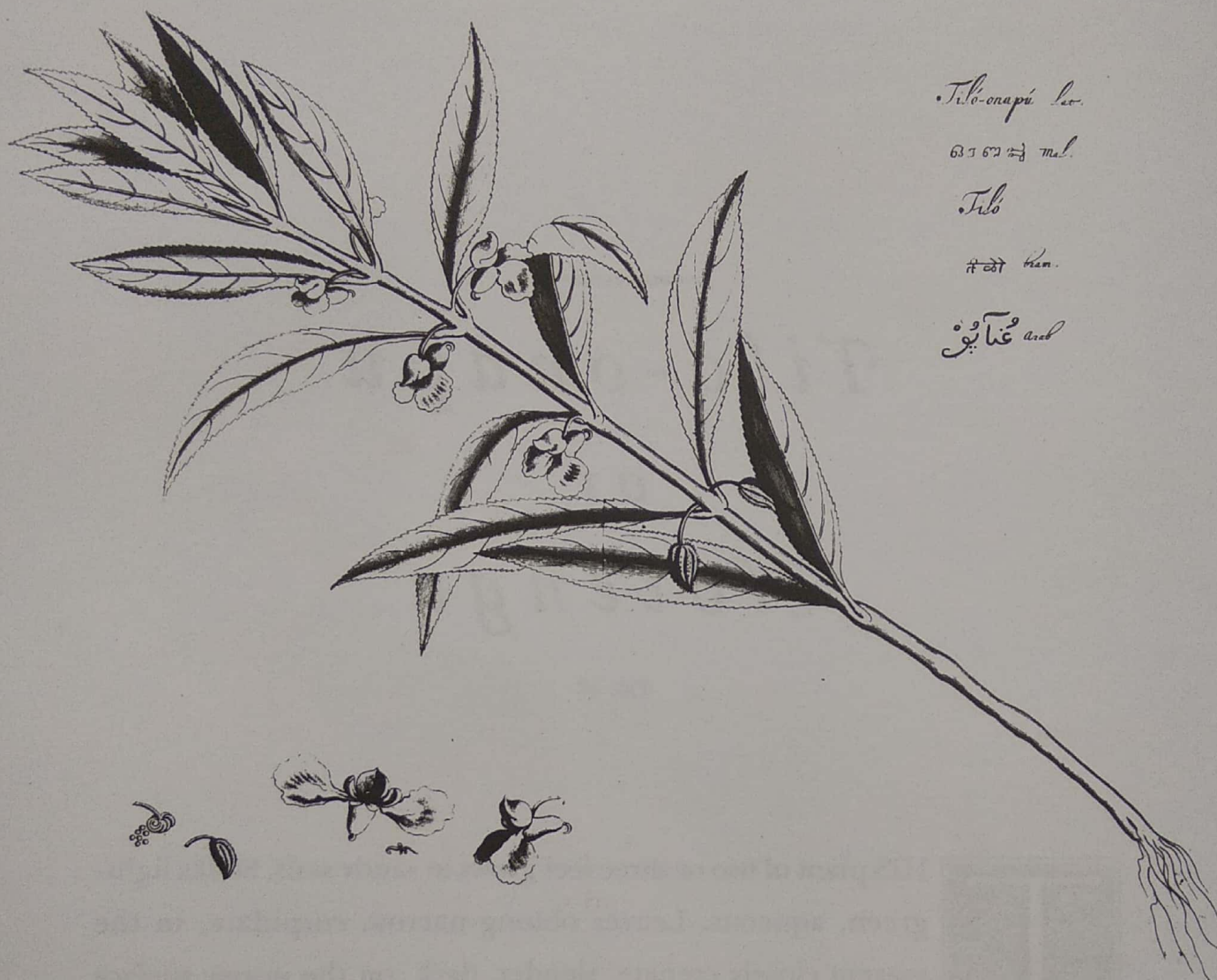
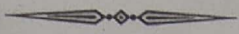


Fig. 52

Impatiens balsamina L., Sp. Pl. 938. 1753; Manilal & Sivar., Fl. Calicut 57. 1982; Sivar. & Philip, Fl. Nilambur 116. 1997. - *Balsamina hortensis* Desportes in F. Cuvier, Dict. Sci. Nat. 3: 485. 1817. *Impatiens balsamina* var. *vulgaris* Wight & Arn., Prodr. 136. 1834 [BALSAMINACEAE].

Tilo-onapu, Notenga Rheede, Hort. Malab. 9: 101, t. 52. 1689.

Only the word Onappoo appears in Malayalam script on t. 52, a general reference to *Impatiens*. Njotenga ("notenga" in text) refers to *Ceropegia candelabrum*. This species is cultivated as a garden plant in Malabar and has not been seen in the wild recently.



K a k a - p u

FIG. 53



IN the language of the Brahmins *Caela-Dolo*, is a low creeping plant, liking sandy and moist places. Root fibrous, white. Knotted stalk-lets spread slender, white root-lets from nodes here and there, when tender are quadrandular, hairy, beset with more conspicuous hairs at the corners, inside humid.

Leaves arise two by two in a somewhat decussate order from nodes, on short, tender, hairy, plain on the inside, furrowed, glabrous, shining petioles, are small, cuspidate, incised saw like in the margin with large teeth, slender and soft in texture, with smooth surface, hairy on both sides, striated with rib-lets on the lower side.

Flowers come forth in the nodes of stalk, are monopetalous, bell-shaped, quadripartite, partly a beautiful colour, partly of purple-red-dark, or white, light red, purplish. In them are four stamens, purple-red-dark, two by two, bent in an arched manner mutually to themselves, each equipped with apex, partly facing the back of the neck, with white and shining apices, partly facing the venter with light blue ones; two of them jut out more, are inserted to the

neck of the venter where each one is accompanied by a slender, purple, dark red claw; two are shorter ones inserted to the back of the bell. The style is white and shining, lying very near to the back, split above as if into a shoot, deeply gaping towards the sides.



Fig. 53

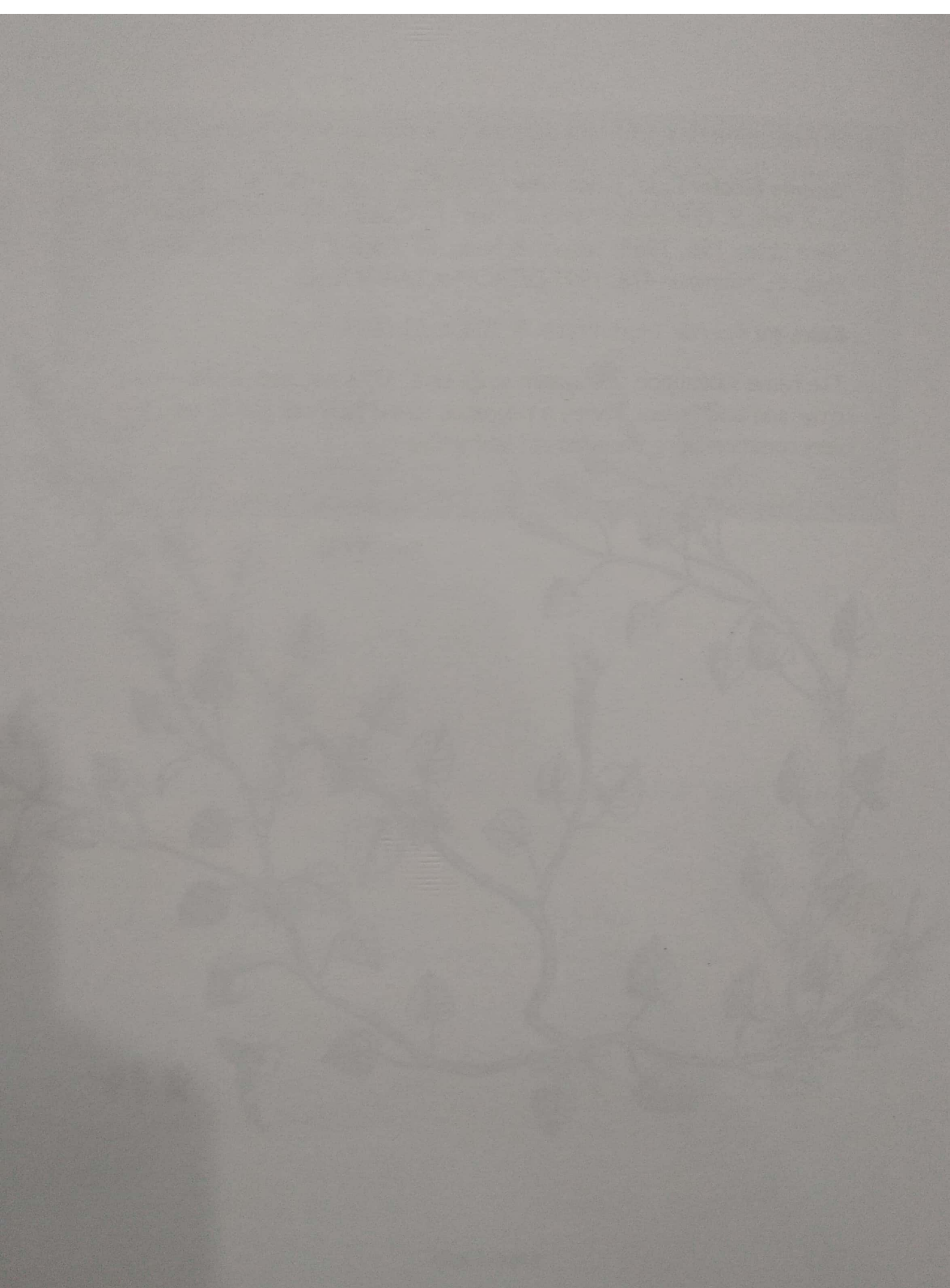
(Its Uses)

The plant crushed with *sandal* wood, *Cariophyllis*, nut of *Moschata* and rose water, gives an exanthematic (for skin eruption accompanied by fever) ointment. Juice of the leaves with *sugar* resists gonorrhoea.

Torenia bicolor Dalz., J. Bot. Kew Gard. Misc. 3: 38. 1851; Sald., Bull. Bot. Surv. India 8: 129. 1966; Manilal & Sivar., Fl. Calicut 196. 1982; Manilal, Fl. Silent Valley 198. 1988; Sasidh. & Sivar., Fl. Thrissur 326. 1996; Sivar. & Philip, Fl. Nilambur 478. 1997 [SCROPHULARIACEAE].

Kaka-pu Rheede, Hort. Malab. 9: 103, t. 53. 1689.

The name Kakkappoo [Malayalam script on t. 53] is still used; kakka means crow and poo means flower, a reference to the dark colored flower. It is very common along the coast of Malabar.





Schit - elu

FIG. 54



HERE are two species of *Elu*, *Schit-Elu* and *Car-Elu*. The former one is called *Davo-Tiloe* by the Brahmins, is a plant of four or five feet in height, liking sandy soil. Root small, covered with hair-like fibres. The stalk arises from the root, single, divided into stalk-lets at random, which comes out either in twos or solitarily from the nodes, are quadrangular, striated with a furrow in each side, are hairy, light green.

Leaves which are attached here and there to striated stalks by means of medium long, bright green, hairy petioles, are oblong-round, cuspidate, hairy, striated with nerves standing out on the lower side, more or less crenate on the margins; in the lower part of the stalks, certain larger leaves are seen in simple number.

Flowers arise from the origin of leaves, are hooded, oblong, monopetalous, five partite above, slightly incised, downy, especially on the outer surface, white, odourless. They have four slender, round, white stamens; provided with yellow and erect apices. Style is slender and bifid. Calyx is small, erect,

incised into five narrow and cuspidate leaflets. Buds oblong-round, first from white to light yellow, then more whitish, with five corners as if imitating the shape of a star.



Fig. 54

The pods full of seeds, almost everywhere, where there are leaves, are attached to shoots by means of short petioles, are straight, oblong, four sided, with two opposite sides more plain, all striated with a true furrow, green, hairy, separated into four seed-bearing capsules by woody partition walls.

Seeds are placed in each capsule serially and in a simple order, attached (connected) to the middle column by means of funicles, are plain, arranged in the length of the capsule, of red dark saffron when they are dry, inside of white colour, of slight bitter taste.

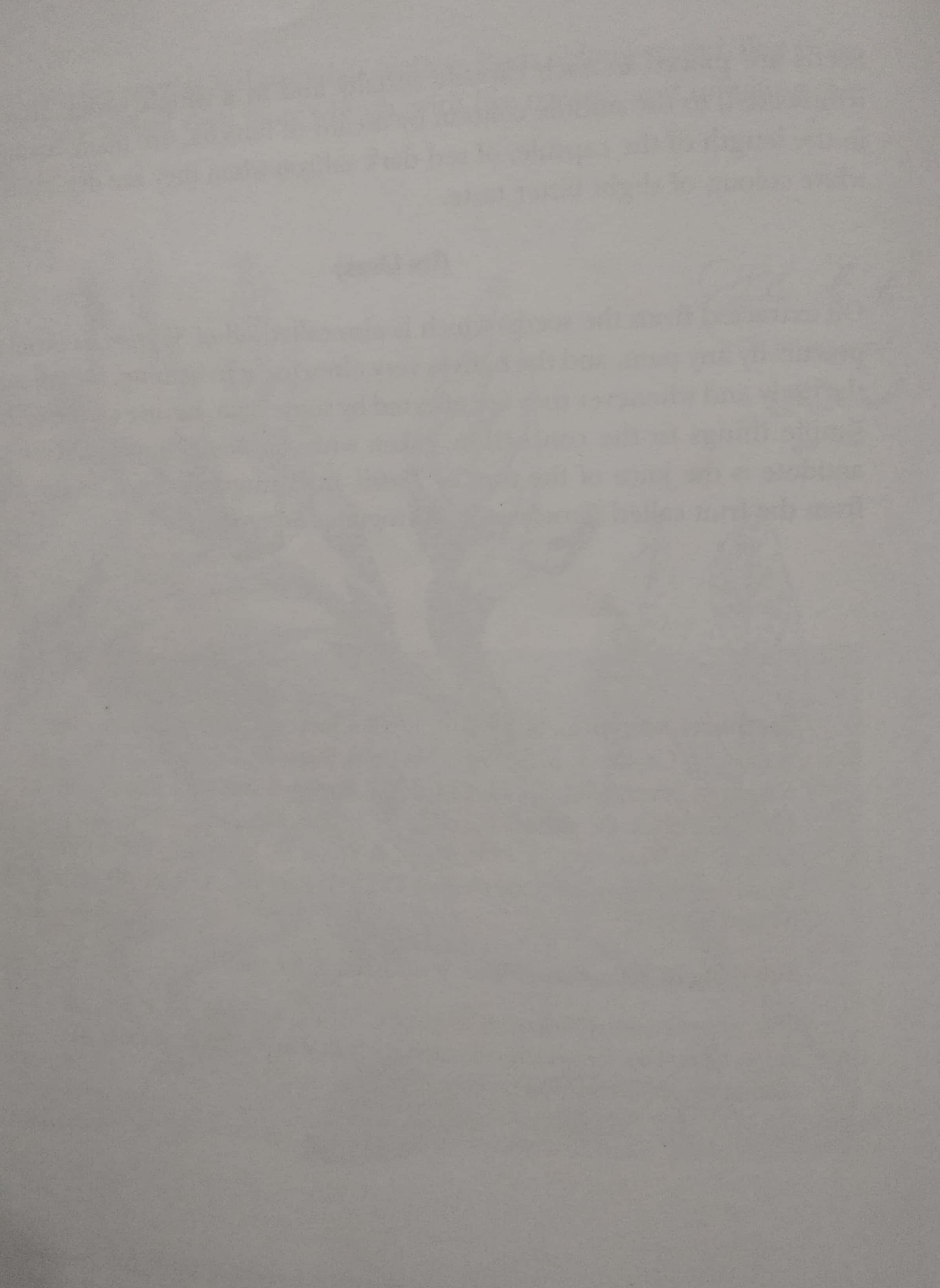
(Its Uses)

Oil extracted from the seeds, which is also called oil of *Sirgelim*, is given for practically any pain, and the natives very often use it in bathing, for smearing the body and whenever they are affected by some pain, having added certain simple things to the concoction; taken with *Amphione*, induces death, its antidote is the juice of the root of *Tinteli*, in Portuguese *Covel*, or the juice from the fruit called *Barudena*, in Portuguese *Bringella*.

Sesamum indicum L., Sp. Pl. 634. 1753; Theob. & Grupe in Dassan., Rev. Handb. Fl. Ceylon 3: 325. 1981; Manilal & Sivar., Fl. Calicut 212. 1982. - *Sesamum orientate* L., Sp. Pl. 634. 1753; Backer & Bakh., Fl. Java 2: 544. 1965; Gandhi in Saldanha & Nicolson, Fl. Hassan Distr. 562. 1976; Sasidh. & Sivar., Fl. Thrissur 333 1996; Sivar. & Philip, Fl. Nilambur 487. 1997. *Sesamum indicum* var. *subindivisum* DC., Pl. Rar. Jard. Genev. 18.1825 [PEDALIACEAE].

Schit-elu Rheede, Hort. Malab. 9: 105-106, t. 54.1689.

The name Chittellu [Malayalam script on t. 54] is not in wide use. It is usually simply called Ellu. It is widely cultivated in Malabar mainly as an oil seed; also used as an additive in food preparations.





Car-elū

FIG. 55



THE second species is called *Car-Elu*; in the language of the Brahmins, *Caro Tilu*, greatly agrees with the first, except that it rises a bit higher. The stalks are also somewhat more thick; leaves, flowers, seeds are bigger, the colour more dark, taste slightly bitter.

(Its Uses)

Flowers eaten, heal the defects of eyes, crushed with fruits and butter and reduced to the form of plasma, lead apostemata (boils) to maturity. Oil extracted from the seeds (comes in the name of the oil of *Sirgelim*) heals phlegmatic fluids from gas, namely if the body is smeared with it. If Malabaris are to be trusted (if faith is to be had in Malabaris) slims the fat and fatten the slim, removes the blindness of eyes, strengthens when smeared on the head; from the same, ointments are also made for wounds and ulcers; taken with *Amphione* induces death, the seed crushed and given with the juice of *Cajenneam*, removes giddiness, the same well washed and de-husked are preserved in different ways.



Fig. 55

Sesamum indicum L., Sp. Pl. 634. 1753; Theob. & Grupe in Dassan., Rev. Handb. Fl. Ceylon 3: 325. 1981; Manilal & Sivar., Fl. Calicut 212. 1982. - *Sesamum orientate* L., Sp. Pl. 634. 1753; Backer & Bakh., Fl. Java 2: 544. 1965; Gandhi in Saldanha & Nicolson, Fl. Hassan Distr. 562. 1976; Sasidh. & Sivar., Fl. Thrissur 333. 1996; Sivar. & Philip, Fl. Nilambur 487. 1997. *Sesamum indicum* var. *subindivisum* DC., Pl. Rar. Jard. Genev. 18.1825 [PEDALIACEAE].

Car-elu Rheede, Hort. Malab. 9: 107, t. 55. 1689.

The name Kaarelu [Malayalam script on t. 55] is probably a shortened form of Karuthellu sometimes used instead of ellu; karutha means black (a reference to seed color). It is widely cultivated as a seed crop in Malabar.



Cara-carinam

FIG. 56



THE second species is *Caniram*. In the language of the Brahmins is called *Boin-Caro*, is a plant of two feet in height, liking sandy-soil, flowering during the rainy season. The root is formed of very many, woody, hairy, black fibres, the bark of which is bitter.

The stalks which either simple or two or three, arise from the root, are green, quadrangular, separated into nodes, giving out leaflets at times in twos, which are mutually decussate.

Flowers arise two by two in the nodes of the stalks on short petioles, are oblong narrow, more narrow below, slender, soft, with the surface plain, of dark green colour, of very bitter taste, a nerve-let stands out on both sides, more however on the lower. Flowers are seen on slender, green, quadrangular petioles, at times also on somewhat branchy ones, which arise two by two from opposite sides, from the nodes of the stalks, above the origin of the leaves and are attached to short, slender peduncles here and there, especially on the upper ones: are two-petalled, with one narrow and curved, on the whole white; with the other more broad, erect somewhat bent, and divided into three equally highly standing out, which is also white, and is variegated

by two dark, red rays which run out into two outer tips and marked in the middle with a red spot. The calyx is loose, divided into five narrow, and hairy leaves, to which is attached with a more slender foot (base). Have a long, white and hairy stamen. The style is slender, and a bit reddish, drawing its origin from the germ of the seed bearing capsules.



Fig. 56

The seed-capsules are narrow, quadrangular, compressed, plain and hard striated in length by furrow, with a partition wall running out from the furrow, separated into two, as if into two oblong-narrow seminal chambers. The seeds, which are seen two or three in each chamber, are a bit oblong, first green, then white, when dry red or from yellow to reddish, light bitter.

(Its Uses)

The whole plant macerated with the infusion of rice cures the poisonous bite of the snake called *Copra-Capella*, namely when drunk, which (effect) it gives when smeared (also).

Andrographis paniculata (N. Burm.) Wall. ex Nees in Wall., Pl. Asiat. Rar. 3: 116. 1832; Santapau, Bot. Mem. Univ. Bombay 2: 50. 1952; Manilal & Sivar., Fl. Calicut 214. 1982; Manilal, Fl. Silent Valley 202. 1988. -*Justicia paniculata* N. Burm., Fl. Ind. 9. 1768 [ACANTHACEAE].

Cara-caniram Rheede, Hort. Malab. 9: 109-110, t. 56. 1689.

The name Karakanjiram [Malayalam script on t. 56] is still used; Kara means terrestrial (on dry land) and Kanjiram [from Karaskaram] refers to the bitterness [of the leaves]. It is also called Kiriath and Ammukkiram and occurs throughout Malabar.



Tsjanga - puspam

FIG. 57



Is a small plant growing in sandy soils. Root green-white and covered with white fibres. Stalks thick, quadrangular, more narrow above, knotted, giving out new stalks from the nodes, and in them covered with leaves in pairs which are mutually decussate; totally (on the whole) aqueous.

Leaves are small, oblong-round, slender; striated on the lower side with a mid-rib with two lateral ones.

Flowers which arise in slender, longer petioles from nodes above the origin of leaves, are blue, papilionaceous, bipartite, marked below with two blue, purple-dark spots; in them are two white stamens, mutually bent towards each other, equipped with white apices. The calyx is four foliate.

(Its Uses)

The whole plant cooked with butter resists gonorrhoea, or also is given to children with aromatic reed, *long pepper* against epilepsy accompanied with

green diarrhoea; the root with juice pressed out from leaves and crushed with red *sandal* wood, heals the defect of the eye called *Edda Padelle* by the Malabaris.

Tojanga-puspa L.

മലബാർ മല.

Tojanga-puspa

മലബാർ മല.

ملايوچو پوسپام



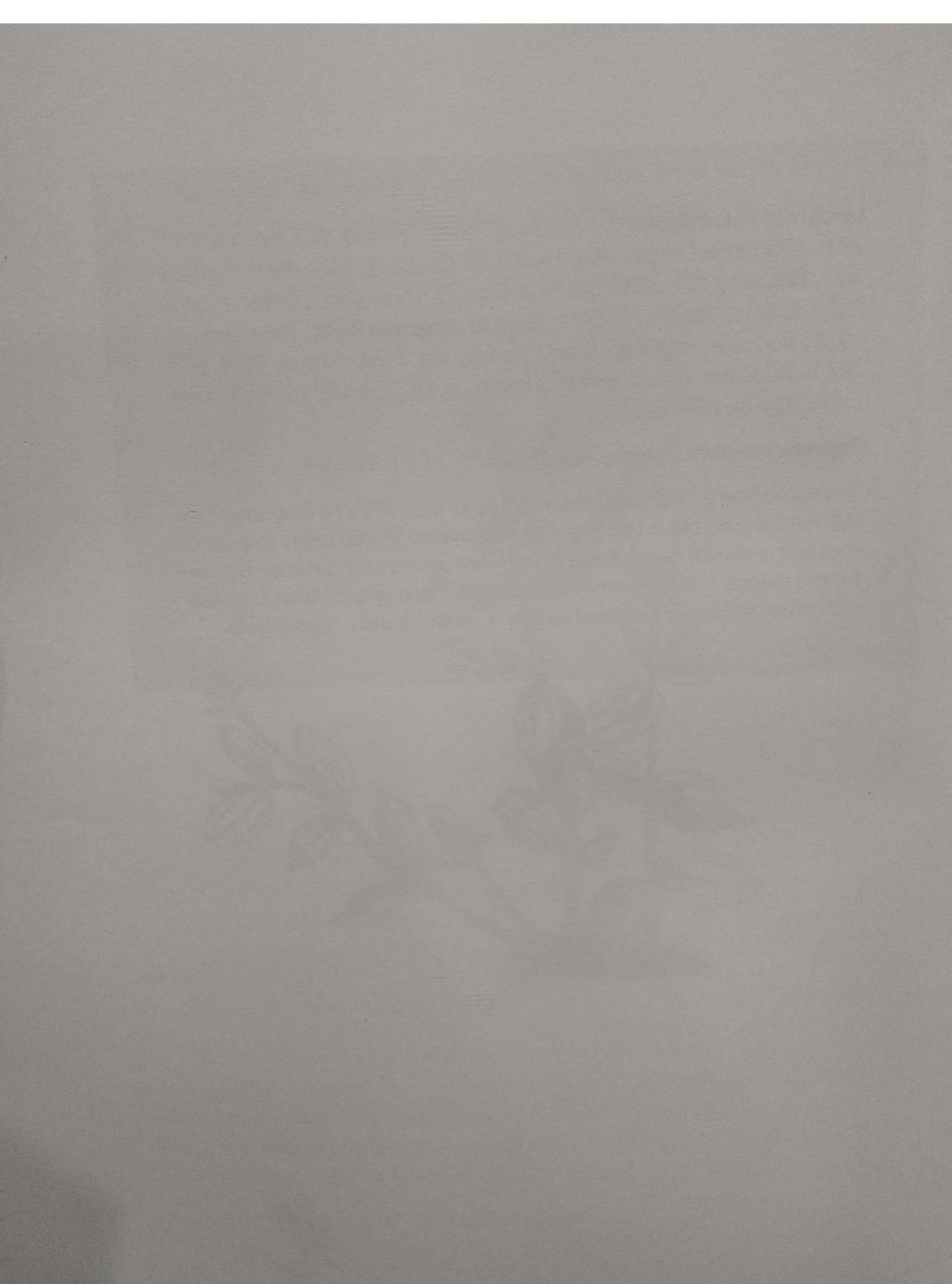
Fig. 57

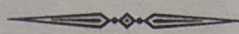


Lindernia rotundifolia (L.) Alston in Trimen, Handb. Fl. Ceylon 6: 214. 1931; Cramer in Dassan., Rev. Handb. Fl. Ceylon 3: 416. 1981; Manilal & Sivar., Fl. Calicut 201. 1982; Sasidh. & Sivar., Fl. Thrissur 323. 1996. - *Gratiola rotundifolia* L., Mant. 174. 1771. *Gratiola integrifolia* Roxb., Hort. Beng. 4. 1814. *Bonnaya integrifolia* (Roxb.) Kostel., Allg. Med.- Pharm. Pl. 3: 893. 1834. *Ilysanthes rotundifolia* (L.) Benth. in DC., Prodr. 10: 420. 1846 [SCROPHULARIACEAE].

Tsjanga-puspam Rheede, Hort. Malab. 9: 111, t. 57. 1689.

The name Shangupushpam [Malayalam script on t. 57] is no longer used for this species now but is used for *Clitoria ternatea*. Shangu refers to a conch shell and pushpam means flower. No Malayalam name is currently available for this species. It occurs in moist, shady places throughout Malabar, typically with other species of *Lindernia* such as *L. antipoda* and *L. oppositifolia*.





Katu-pee-tsjanga-puspam

FIG. 58



S a small plant enjoying sandy soil. Root white, fibrous, stalks green, quadrangular, knotted, striated with a furrow in opposite sides, in an alternate order in the internodes.

Leaves are seen in pairs in the nodes towards the plain side of the lower internode, are oblong narrow, slender, smooth, glabrous, provided with sharp tips in the margins. The mid-rib stands out on the lower side.

Flowers arise many clustered together in the tip of the stalks, are papilionaceous, white-purple, red-purple below. In these are two erect, white stamens, mutually bent towards each other, provided with white apices; a white style, level on the upper part comes out from the mouth of the calyx, which is oblong and five tipped.

The seminal capsules are oblong, green, slightly reddish, in them are numerous sand-like seeds, first green-white, adhering to a common green small style.

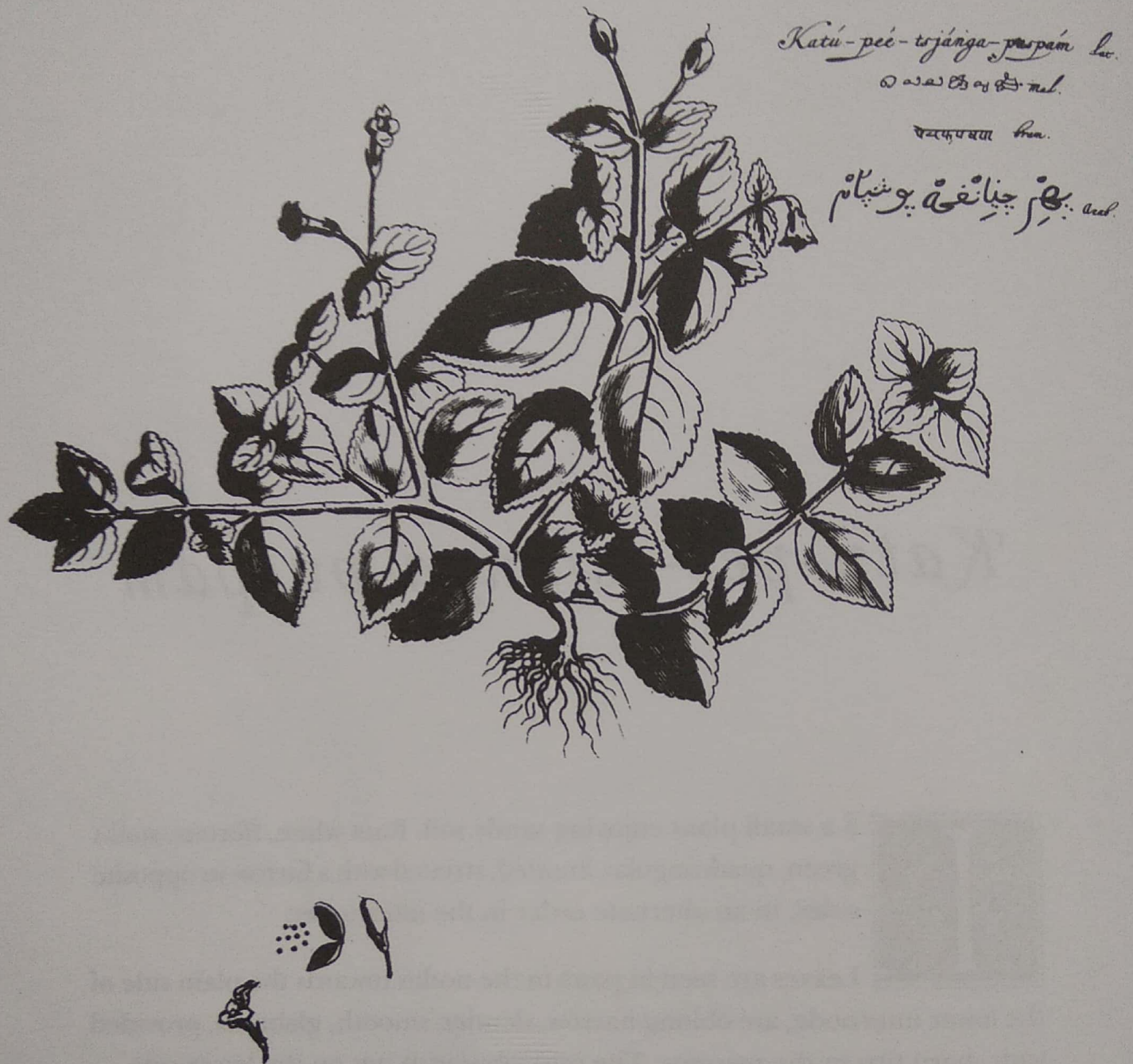
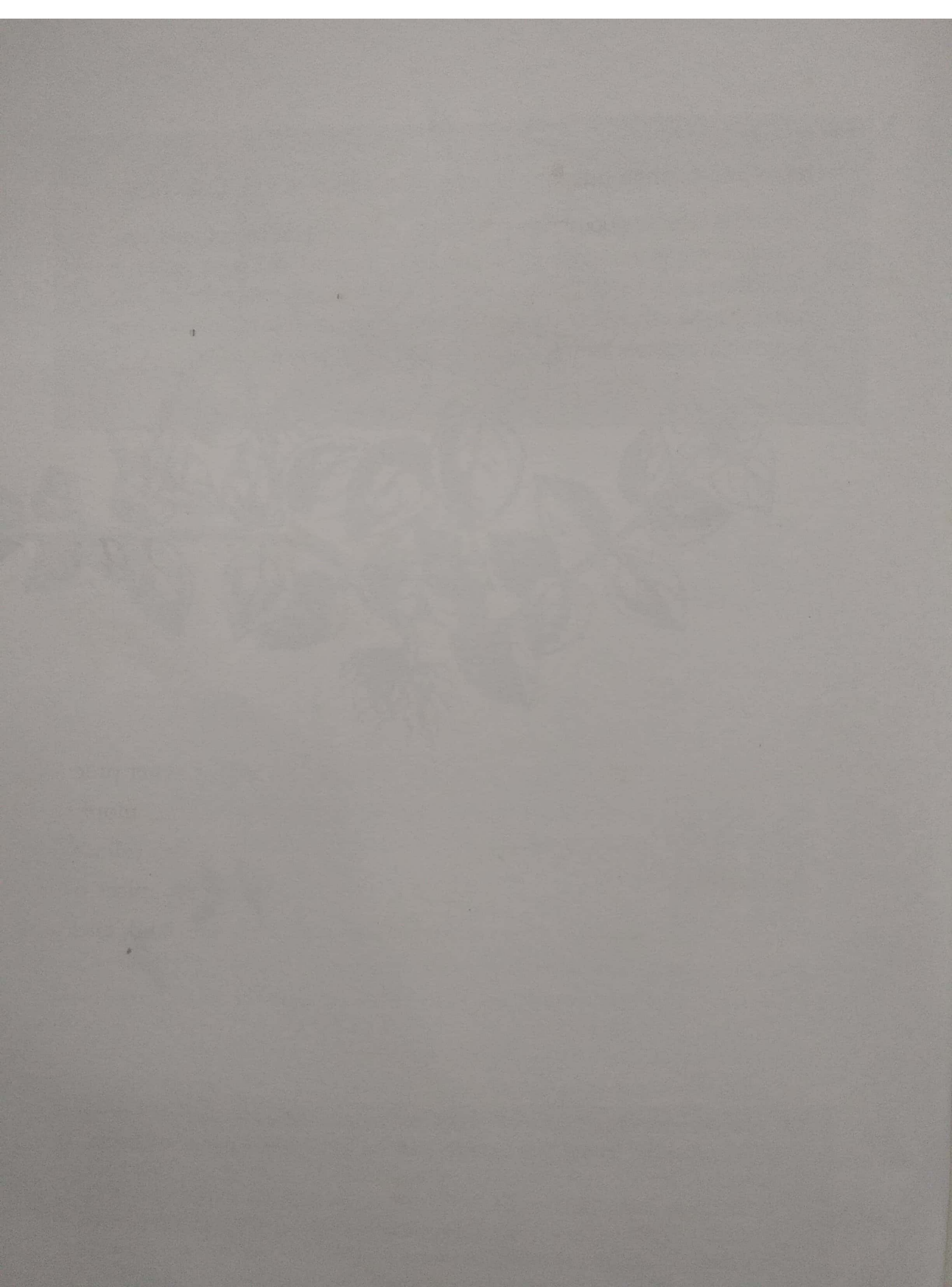


Fig. 58

Lindernia crustacea (L.) F. v. Muell., Syst. Cens. Austral. Pl. 1: 97. 1882; Philcox, Kew Bull. 22: 17. 1968; Cramer in Dassan., Rev. Handb. Fl. Ceylon 3: 407. 1981; Manilal & Sivar., Fl. Calicut 199. 1982; Sasidh. & Sivar., Fl. Thrissur 322. 1996; Sivar. & Philip, Fl. Nilambur 473. 1997. -*Capraria crustacea* L., Mant. 87. 1767. *Vandellia crustacea* (L.) Benth., Scroph. Ind. 35. 1835 [SCROPHULARIACEAE].

Katu-pee-tsjanga-puspam Rheede, Hort. Malab. 9: 113, t. 58. 1689.

The name Peechangupushpam [Malayalam script on t. 58] is not used now. Changu refers to the conch shell (note: kattu, meaning wild, is not written in Malayalam script here); pee means wild; and pushpam means flower. The name Shangupushpam is now used for *Clitoria ternatea*. No Malayalam name is currently available for this species. It occurs throughout Malabar.



Pee-tjanga-pulpam

FIG. 59



LIKES sandy and moist soil, agrees with the former practically in all things except that leaves are less oblong, more broad and round; flowers the same but turning slightly yellow; calyx quadripartite, in them are four stamens with apices twisted mutually to themselves. The seminal capsules are oblong-round, enclosing numerous seeds.

Lindernia ciliata (Calesm.) Pennell, Brittonia 2: 182. 1936; Pennell, J. Arnold Arb. 24: 253. 1943; Philcox, Kew Bull. 22: 51. 1968; Cramer in Dassan., Rev. Handb. Fl. Ceylon 3: 412. 1981; Manilal & Sivar., Fl. Calicut 199. 1982; Sasidh. & Sivar., Fl. Thrissur 322. 1996; Sivar. & Philip, Fl. Nilambur 472. 1997. - *Gratiola ciliata* Colesm., Prodr. Desc. Grat. 14. 1793. *Gratiola serrata* Roxb., Fl. Ind. 1: 139. 1820. *Bonnaya brachiata* Link & Otto, Ic. Pl. Select. 25, t. 11. 1820 [SCROPHULARIACEAE].



Fig. 59

Pee-tsjang-puspan Rheede, Hort. Malab. 9: 115, t. 59. 1689.

The name Peechangupushpan [Malayalam script on t. 59] is not used; pee means wild; shangu refers to the conch shell and pushpan means flower. The name Shangupushpan is now used to refer to *Clitoria ternatea*. No Malayalam name is currently available for this species. It occurs throughout Malabar.

Nelam - Parenda

FIG. 60



THE plant is low, with the decumbent shoots spread over the earth. Root fibrous, white, woody inside, of pleasing and sharp smell. Branches slender, woody, clothed with a green bark.

Leaves are attached to the shoots, are oblong-narrow, cuspidate, vary thinly crenate in the margins, soft, smooth, dark. The mid-rib is pronounced on both sides, the lateral ones only on the lower side.

Flowers are seen on slender, green and downward bent peduncles, above the origin of leaves, are monopetalous, deep rose, have a mid-rib on the lower side, on the upper have three reddish vein-lets, and also two foliaceous and falcated claws, coming out from the calyx which are white and striated in length with veins, with a deep rose tip. Calyx five foliate, cuspidate, in the middle of which are seen white, erect stamens covered with claws, which (stamens) split into red, saffron and plain apices, in the middle of which the green globule gives out the white style from the top.

Seed-bearing globules, with a white tip at the top, are somewhat trilateral in shape, the rind cartilaginous, striated, specially in the middle, where the

globules loosen themselves, which are first light green, then reddish. They contain in themselves eight, oblong-round, aqueo-candid, shining seeds.

Nelam-pazenda. L.

നിലം പാണ്ടി മല.

نیلَم پازندہ

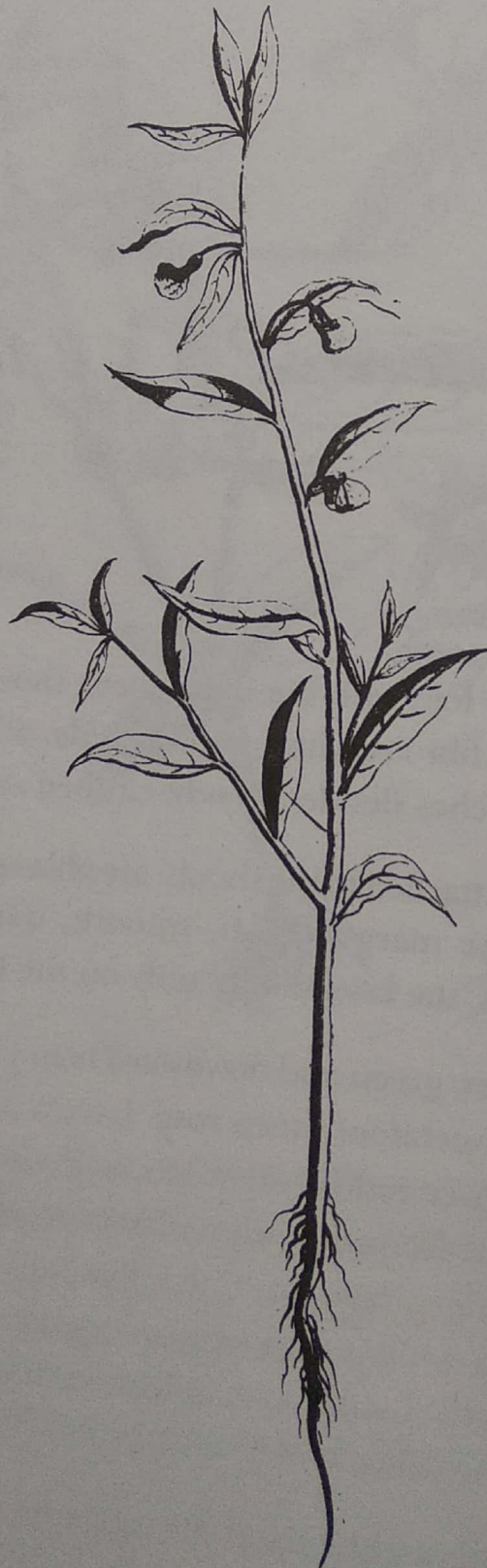


Fig. 60

Hybanthus enneaspermus (L.) F. v. Muell., Fragm. 10: 81. 1876; Tennant, Kew Bun. 16(3): 437. 1963; Manilal & Sivar., Fl. Calicut 34. 1982; Sivar. & Philip, Fl. Nilambur 55. 1997. - *Viola enneasperma* L., Sp. Pl. 937.1753. *Viola suffruticosa* L., Sp. Pl. 937.1753. *Ionidium enneaspermum* (L.) Vent., Jard. Malm, t. 27. 1803. *Ionidium suffruticosum* (L.) Roem. & Schult., Syst. Veg. 5: 394. 1819 [VIOLACEAE].

Nelam-parenda Rheede, Hort. Malab. 9: 117, t. 60. 1689.

The name Nelamparanda [Malayalam script on t. 60] is still used; nelam means ground and paranda means prostrate, i.e., a plant prostrate [or decumbent] on the ground. It occurs throughout Malabar.

Katu-vistna-clandi

FIG. 61



Is a plant growing in sandy soils. Root red, fibrous, woody. Branches slender, round, woody, green, beset with hairs.

Leaves are attached to branches by means of small, dark-green, thick, peduncles, are oblong-round, thinly beset with hairs, soft, flaccid, smooth, of deep greenness. The mid-rib stands out on the lower side, their taste is slightly biting; no smell.

Flowers attached to lateral shoots, are papilionaceous, three petalled, two of which are rose-purple, the third leaf is clawed and blue, provided at the back with purple-blue, bifurcated or trifurcated stamens, in the manner of a crest. The style is theca-shaped, purple-red below, split above into very slender, white, long filaments, each of which is tipped with a white small bud, passing a white curved filament, equipped with a long blue head. Calyx is quadrifoliate, of which two larger ones are angular, two smaller ones placed decussately against the larger ones.

Kātu-vīṣṭna-elāndi Lat.

കാട്ടുവീശ്ണുതളി Mal.

فخاطو بيشنو قحلا زصبي Arab.

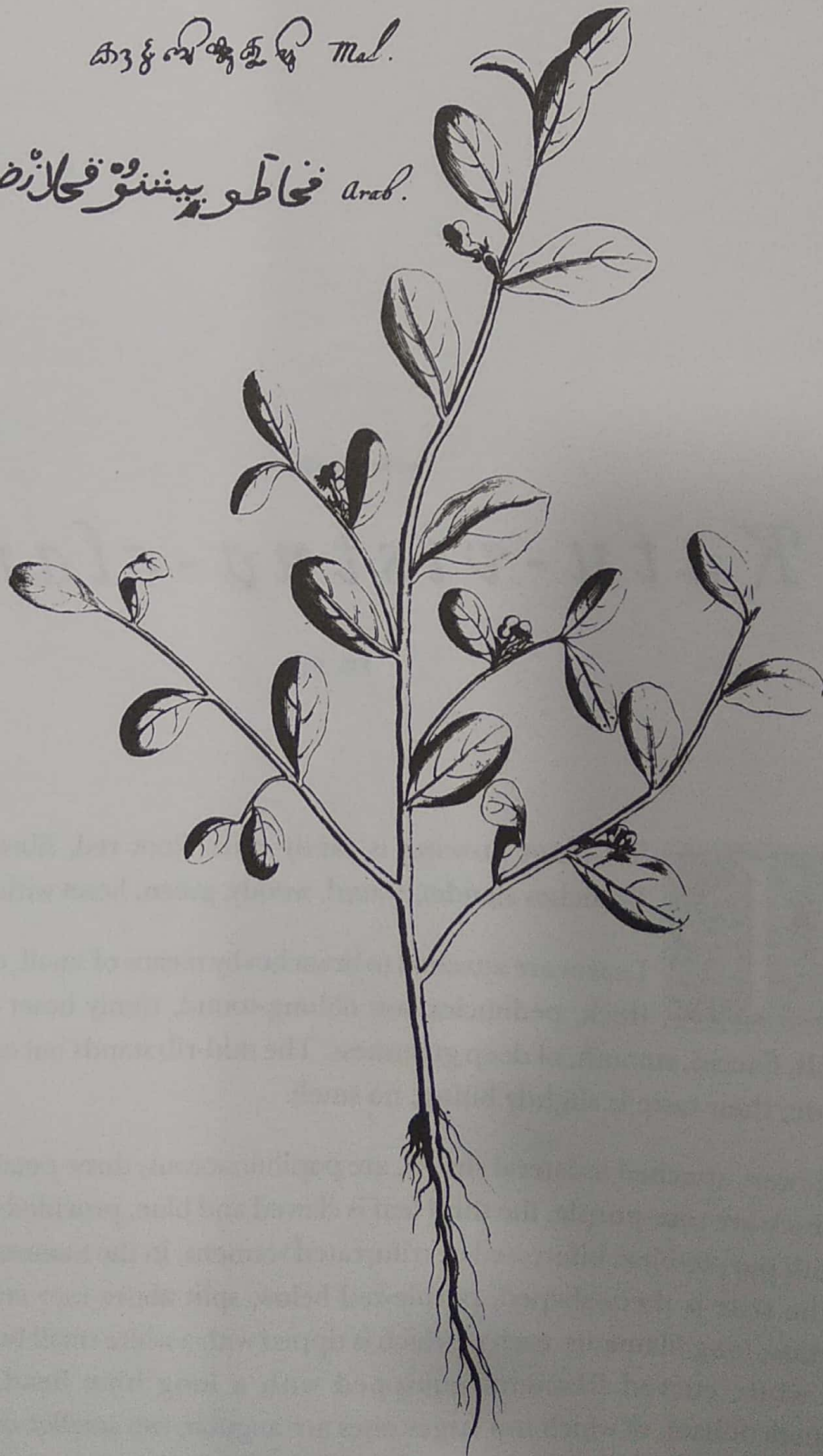


Fig. 61

Polygala arvensis Willd., Sp. Pl. 3: 876. 1802; Burt, Notes Roy. Bot. Gard. Edinburgh 32: 404. 1973; Manilal, Fl. Silent Valley 14. 1988; Sasidh. & Sivar., Fl. Thrissur 47. 1996; Sivar. & Philip, Fl. Nilambur 62. 1997. - *Polygala rheedei* Hassk., Flora 44: 616. 1861 [POLYGALACEAE].

Katu-vistna-clandi Rheede, Hort. Malab. 9: 119, t. 61. 1689.

The name Kattuvishnuklanthi [Malayalam script on t. 61] is not used; kattu means wild and vishnuklanthi refers to blue-flowered *Evolvulus alsinoides* (Convolvulaceae). No Malayalam name is currently available for this plant. It occurs along the coasts of Malabar.



Manja-kurini

FIG. 62



IN the language of the Brahmins *Abuli*, grows in sandy soils. Branches are round, knotted, with dark green, glabrous bark, with white wood, in the middle of which is a core.

Erect leaves are attached, at times in fours, to nodes by means of oblong, light-green, interiorily plane and somewhat winged petioles, are oblong round, slender, soft, equipped on the lower side with many rib-lets which go out from the mid-rib and stand out much; on the upper side striated with wrinkles in the tract of the ribs, of light sharp and light sweet taste, somewhat smacking that of radish.

Flowers are seen in spikes in the steps of the stalk, on petioles which proceed straight away from their top on which transverse and lateral ones come forth from above the origin of leaves from the nodes, are monopetalous, separated above into three flaps, on the whole of florid, orange colour, jutting out with yellow, oblong neck from the calyx, have four, oblong, yellow stamens.

The seed-capsules are oblong, cuspidate, woody, a bit level, more narrow towards the bottom, first green, then white, covered with small leaflets, which

first arise in the calyx while still from the upper part flowers burst forth from buds.

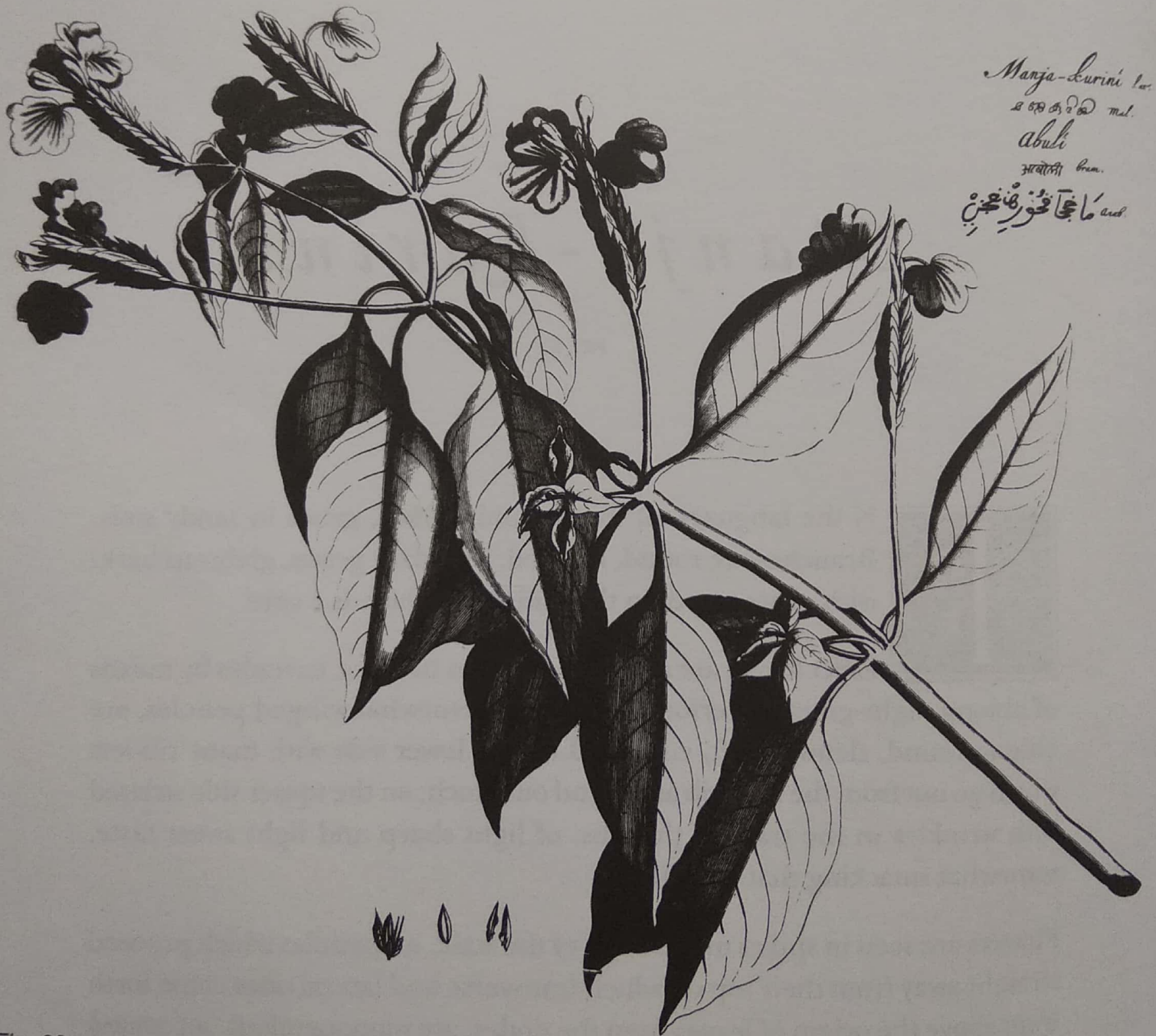
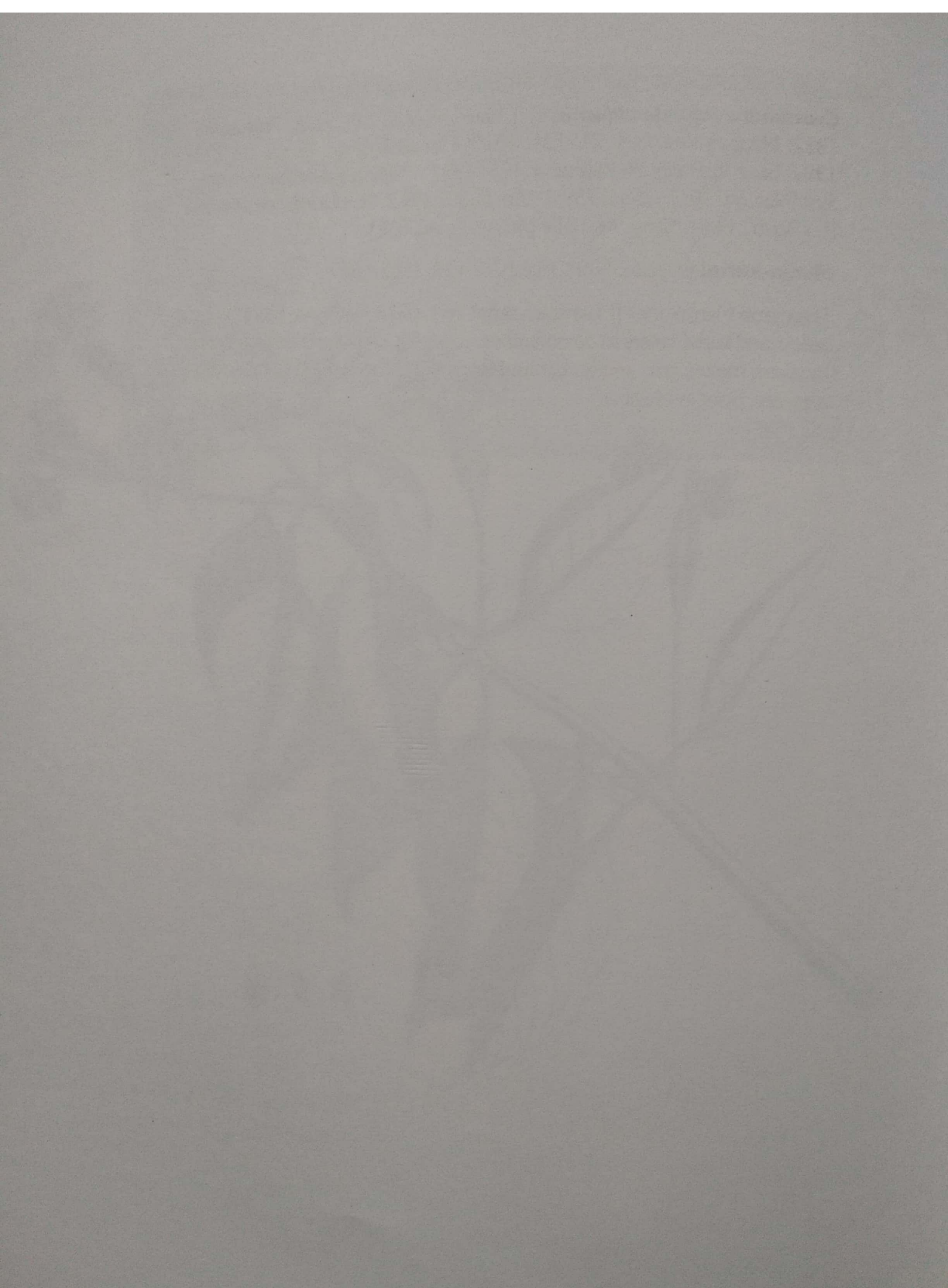


Fig. 62

Crossandra infundibuliformis (L.) Nees, in Wall., Pl. Asiat. Rar. 3: 98. 1832; Napper, Kew Bull. 24: 336. 1970; Manilal & Sivar., Fl. Calicut 222. 1982; Sivar. & Philip, Fl. Nilambur 495. 1997. -*Justicia infundibuliformis* L., Syst. Nat. ed. 10, 2: 850. 1759; L., Sp. Pl. 21. 1762. *Ruellia infundibuliformis* (L.) Roxb., Hort. Beng. 46. 1814 [ACANTHACEAE].

Manja-kurini Rheede, Hort. Malab. 9: 121, t. 62. 1689.

The name Manjakurinji [Malayalam script on t. 62] is not used; manja means yellow and kurinji refers to *Strobilanthes*. Today it is known as Kanakambaram; kanakam means gold and ambaram means sky or horizon. It is cultivated as a garden plant in Malabar.



Tali-pullu

FIG. 63



NJOYS sandy soil. Root white, fibrous. Stalks green, round, knotted, aqueous, covered with leaves shaped like grass, which come out from nodes.

Flowers are three petalled, round, cuspidate, blue-purple glittering. In them are five stamens, from white to bluish, hairy with oblong, blue hairs, three slender ones tipped with yellow apices, the remaining two are thicker and tipped with saffron apices. Calyx is trifoliate.

Seed bearing buds are light green, shining, at the top a black tip stands out, for the rest convex, three sided, in the middle of the sides slightly bulging out and there opening and loosening themselves. In them are contained six seeds, separated by means of partition walls, are three sided, with one convex and two plain, with ash-coloured and rough surface.

(Its Uses)

The plant, with the milky juice of Indian nut poured over the head, promotes hairs. The juice boiled with the oil of *Tzit Elu*, resists leprosy called *Bem-Cuttam*, *Carin-Cuttam*, by the Malabar.



Tali-pullu L.
 താളി പൂലു മല.
 طلعين بولهم Arab.

Fig. 63

Murdannia nudiflora (L.) Brenan, Kew Bull. 7: 189. 1952; Panigrahi & Kammathy, Proc. Nat. Acad. Sci. India 33: 495. 1963; Manilal & Sivar., Fl. Calicut 296. 1982; Sasidh. & Sivar., Fl. Thrissur 477. 1996; Sivar. & Philip, Fl. Nilambur 739. 1997. - *Commelina nudiflora* L., Sp. 41. 1753, as to lectotype. *Tradescantia malabarica* L., Sp. Pl. ed. 2, 412. 1762. *Aneilema nudiflorum* (L.) Sweet, Hort. Brit. 430. 1827; Merr., J. Arnold Arb. 18: 64. 1937 (attrib. comb. to Wall.). *Murdannia malabarica* (L.) Brückner in Engl. & Prantl, Nat. Pflanzenfam. 15A: 173. 1930 [COMMELINACEAE].

Tali-pullu Rheede, Hort. Malab. 9: 123, t. 63.1689.

The name Thallipullu [Malayalam script on t. 63] is still used; thaali means shampoo (mucilage-containing); and pullu means grass or herb. The name denotes its (medicinal) use as a shampoo which promotes the growth of hair. The plant grows throughout Kerala.



Upu-dali

FIG. 64



HERE are two species, one of the same name, the other *Vallia-Upu-Dali*. The former small plant is low, procumbent with tortuous shoots, and creeping like a convolvulus. Root woody, fibrous, white. Stalks slender, dark-green, quadrangular, hard, marked with nodes: above the nodes, in the beginning of each inter-node, bulging out with a small venter, curved at the bendings, thinly beset with white hairs.

The leaves, which arise two by two in the nodes on long, light green, hairy petioles, plane on the inside, are oblong-round, dark-green. The mid-rib stands out with annular nerve-lets on the lower side.

Flowers arise in the nodes at the origin of leaves, are bell-shaped, monopetalous, five partite, striated with nerves along the neck on the outside, from white to very light blue; have four white stamens, of which two stand out higher, provided with erect and white apices. The style is white, twisted at the top. The calyx with five very narrow, hairy oblong leaves, clasps the neck of the flower, which is accompanied by two smaller leaves towards the base of the calyx: without any smell.

The seed capsules are oblong, striated with sutures, namely in the margins, separated into two locules, in the middle of the sides where they loosen themselves (dehisce) provided with more slender suture, first green and hairy then woody and white. The seeds are very compressed, slender, circular, ash-coloured, in the margins surrounded by a slightly bulging and light red fringe, in each capsule, four placed at random in the manner of a shield, lying near the middle partition wall.



Opur - vahi Ser.

മഴകുളി Mal.

وَيْطُحْلَيْن Arab.

Fig. 64

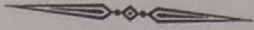
(Its Uses)

The juice of the leaves (so also the leaves) is employed in the making of salt. The leaves cooked with salt and pressed out into a juice, sets aright cachexia (morbid state of body system).

Dipteracanthus patulus (Jacq.) Nees, in Wall., Pl. Asiat. Rar. 3: 82. 1832; Manilal & Sivar., Fl. Calicut 225. 1982. -*Ruellia patula* Jacq., Misc. Austriac. 2: 358. 1781-2; Jacq., Icon. Rar. 1: t. 119. 1787?; Malik & Ghafoor in Nasir & Ali, Fl. Pakistan 188: 61. 1988. *Ruellia malabarica* Kostel., Allg. Med.-Pharm. Pl. 3: 925. 1834 [ACANTHACEAE].

Upu-dali Rheede, Hort. Malab. 9: 125, t. 64. 1689.

The name Upputhali [Malayalam script on t. 64] is not used now; uppu means salt; and thaali means mucilage-bearing. The allusion is to the presence of salt in the juice of the leaves, etc., which are employment in making (extracting) salt. No other Malayalam name is currently available for this. It is known to occur in southern Malabar but has not been seen recently.



Soneri-ila

FIG. 65



ROWS in sandy soils. Stalks white, round, knotted, beset with oblong hairs, aqueous inside.

Leaves are seen in the nodes, in pairs and in a decussate order on oblong, erect, whitish petioles furrowed on the inside, are oblong round, beset with oblong and somewhat hirsute hairs, striated with thick, pronounced rib-lets, from the thick mid-rib, which (rib-lets) run out in an oblique line towards the anterior part, on the whole variegated, on the outside, up to the middle, in most part red-purple, so also in the margins and in the ribs; on the inside dark green, from the opposite side, verging on saffron for the rest, of lively greenness, interspersed with numerous, white, round spots, from each of which from the inside there comes out an only hair.

Flowers arise many clustered together, more or less six, seven, at the tip of shoots, on white purple, hairy peduncles, are three petalled, oblong, cuspidate, on the inside deep rose, on the outside light rose, beset with hairs here and there. In them are three rose coloured stamens, provided with erect, cuspidate, yellow apices. The style is oblong, rose coloured, comes out in the

middle from the calyx, which is with a deep mouth of three, short, cuspidate leaves.

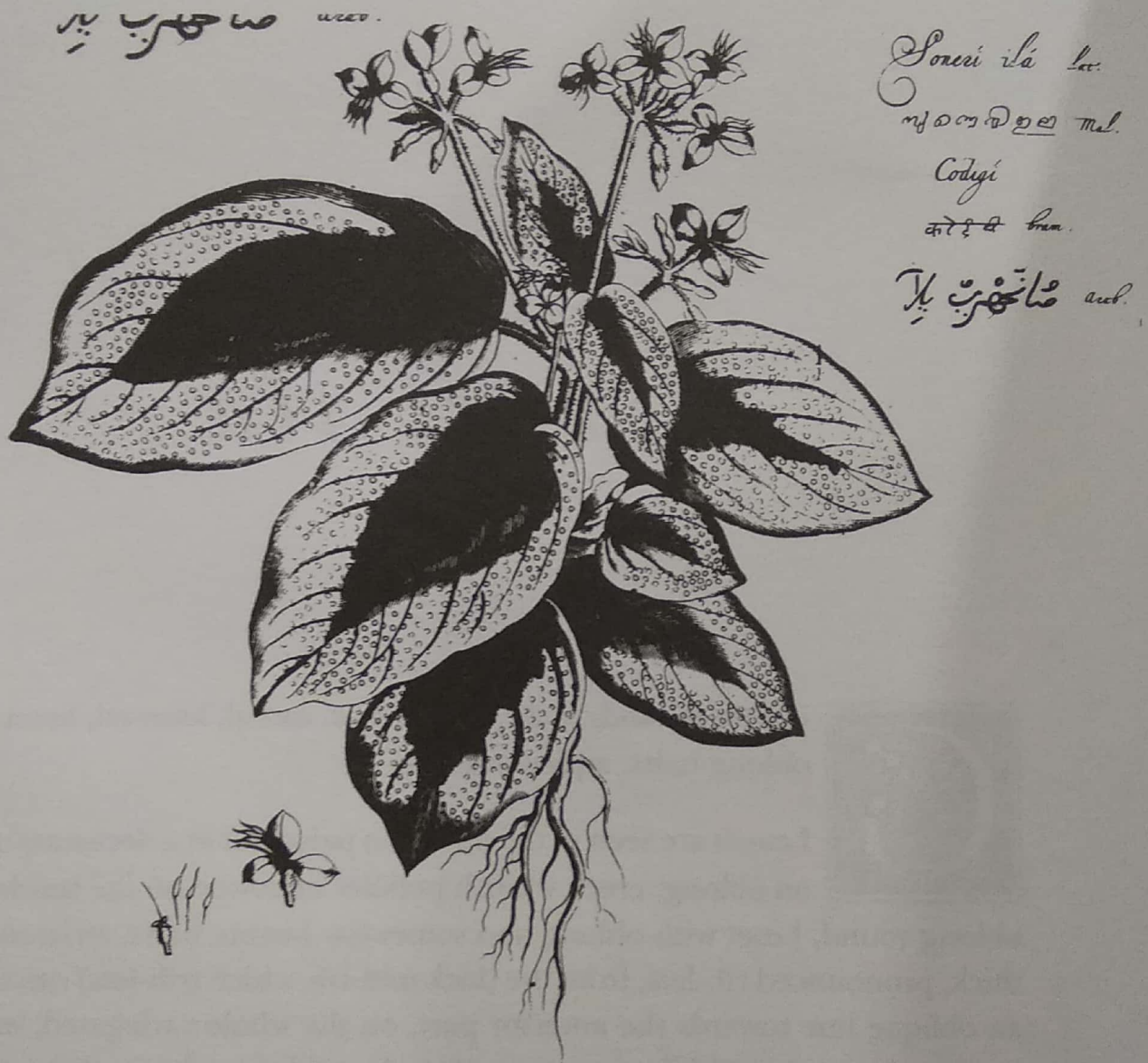


Fig. 65

Sonerila rheedei Wall. [Num. List no.4096. 1831, nom. nud.] ex Wight & Arn., Prodr. 321.1834; Nayar, J. Bombay Nat. Hist. Soc. 48: 324.1969; Manilal & Sivar., Fl. Calicut 109. 1982; Sasidh. & Sivar., Fl. Thrissur 193. 1996; Sivar. & Philip, Fl. Nilambur 275. 1997 [MELASTOMATACEAE].

Soneri-ila Rheede, Hort. Malab. 9: 127, t. 65.1689.

The name Sunnerila [Malayalam script on t. 65] is still used; sunn(d)eri refers to a beautiful girl; and ila means leaf, a reference to the beautiful, multi-colored leaves.

Kalu-polapen

FIG. 66



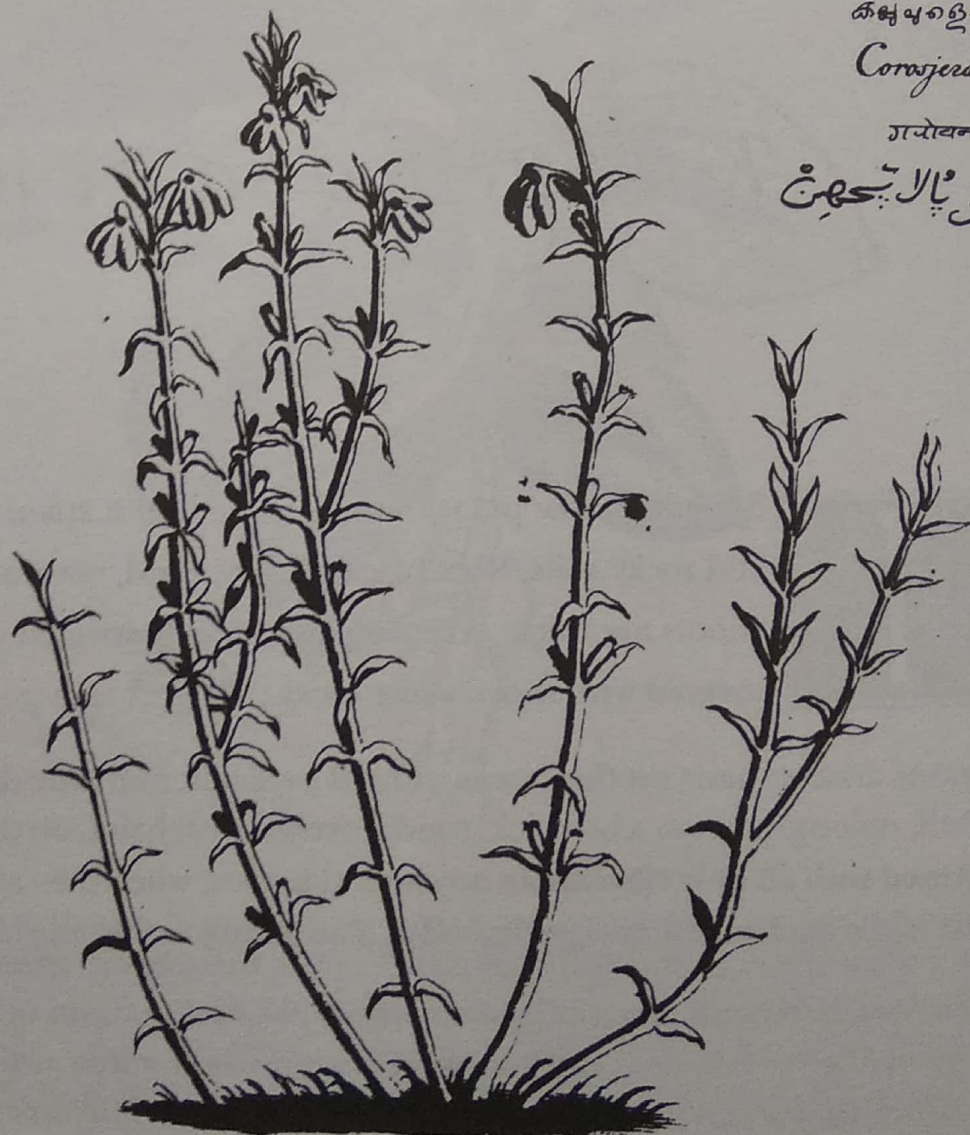
S a small, low plant, hardly exceeding a span, liking sandy and rocky soils. Root black, woody, rigid, covered with fibres. Shoots are thick, green, square, deeply striated on each side, covered with short, white hairs.

Leaves arise in pairs on the shoots without pedicels, mutually decussate, are small, oblong-narrow, a bit thick, rigid, covered with hairs, on the lower side covered with an only rib without any lateral nerves, when they are plucked, a part of the bark together is peeled off as if adhering to the base of the petiole.

Flowers arise erectly practically everywhere above the origin of each flower, lying by the very shoots, and consist of a white, light green and hairy neck, by which they stand out from the calyx and four very white dissimilar leaves placed transversely to the neck; one of them is very short but more broad, with round margin, and spring forth in the middle with a short tip, curled towards the outside, turned towards the shoot to which the flowers adhere; three are more oblong, and expanded around the opposite part of the shorter leaf, is oblong round. The calyx is oblong, green, at the mouth of five dark

tips; in which (calyx) arise oblong seed-capsules, enclosing within the membranous rind, numerous, minute seeds like sand, placed around a green style in the middle, first green, then blue-black, and then verging on red.

There is yet another species of *Calu Polapi*, differing from the first only in that the flowers are from yellow to green.



Kalu-polapi Sw.

കളുപൊളപ്പി - mal.

Corchoria

गजोद्यन Sw.

قحطان پالا سحره arab.

Fig. 66

Striga asiatica (L.) Kuntze, Rev. Gen. Pl. 2: 466. 1891; Hepper, Rhodora 76: 46. 1974; Sald. in Sald. & Nicols., Fl. Hassan Distr. 526. 1976; Manilal & Sivar., Fl. Calicut 194. 1982; Manilal, Fl. Silent Valley 197. 1988; Sasidh. & Sivar., Fl. Thrissur 326. 1996. - *Buchnera asiatica* L., Sp. Pl. 630. 1753. *Striga lutea* Lour., Fl. Cochin. 22. 1790; Sald., Bull. Bot. Surv. India 5: 69. 1963; Cramer in Dassan., Rev. Handb. Fl. Ceylon 3: 400. 1981. *Lobelia rheedei* Hassk., Fl. 44: 641. 1861 [SCROPHULARIACEAE].

Kalu-polapen Rheede, Hort. Malab. 9: 129, t. 66. 1689.

The name Kallupulappan [Malayalam script on t. 66] is not used; kallu means rock or stone (as dry and hard lateritic soil) and pulappan [from polippen] means that which is capable of breaking. No Malayalam name is currently available for this plant. It occurs in uplands of Malabar.



Kodatsjeri

FIG. 67



LIKES rocky soil. Stalks slender, round, green, woody. Leaves are attached here and there to stalks, are oblong round, thick, with a plain and glabrous surface, covered on the lower side with a green rib, the tract of which are striated on the inside;

of sweet smell when rubbed.

Flowers arise in twos, threes, together is one small common petiole, above the origin of leaves, are papilionaceous, white, dissimilar; one of them is clawed, slightly bluish towards the tip, and provided with a crest or a slight bluish stamen-like, little feather. Style is white, split above into slender filaments, tipped with small apices and in the middle hiding a white, more oblong filament, which is curled in a ring like manner. The calyx is five foliate and green two of which are more oblong, three are smaller, one more oblong in between two leaves, is turned towards the middle clawed leaf of the flower. Seeds oblong-round, plain, rough, dark red.

(Its Uses)

The leaves laevigated in the washing of rice or also boiled in oil and given, relieves the pain of abdomen; promotes menstruation.

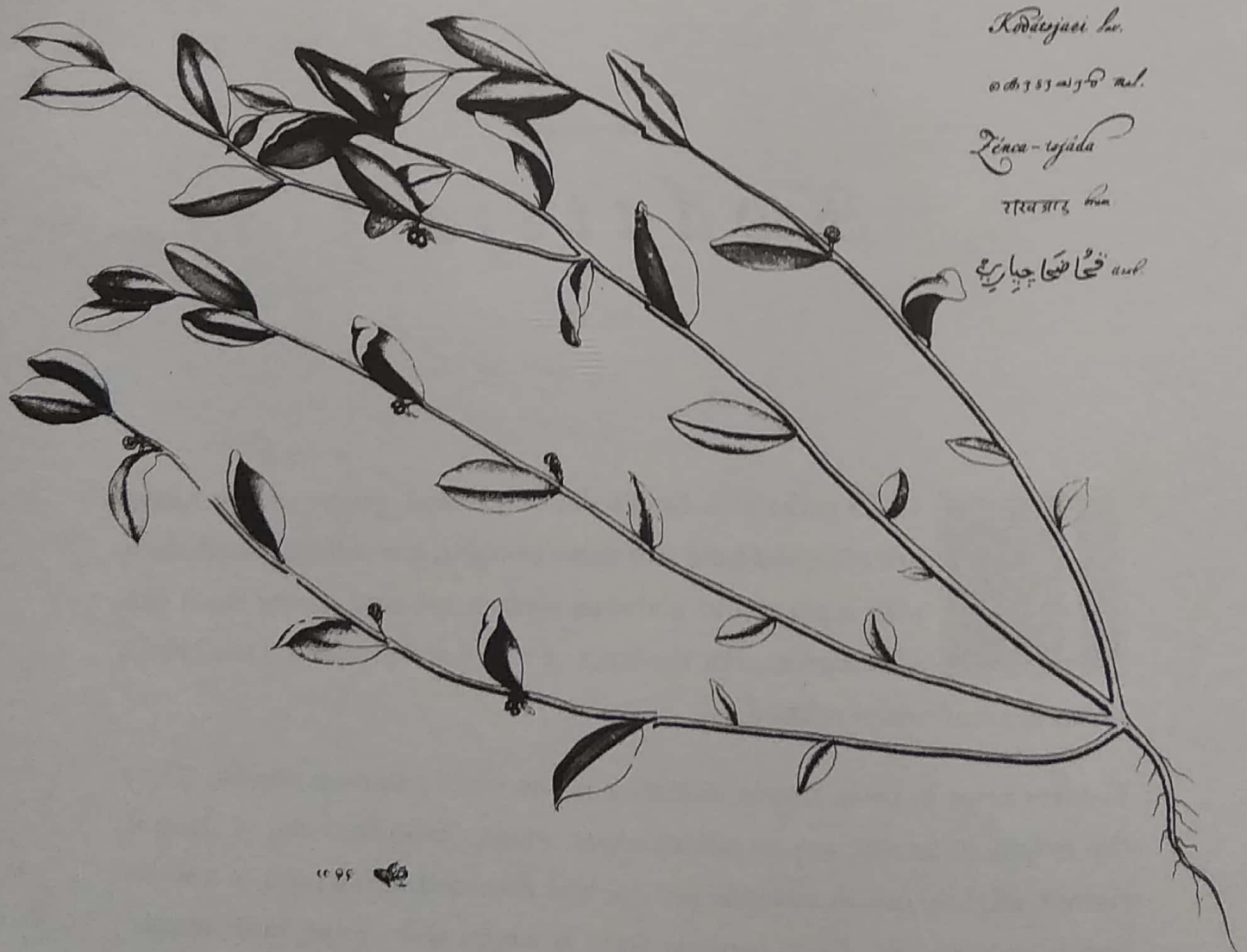
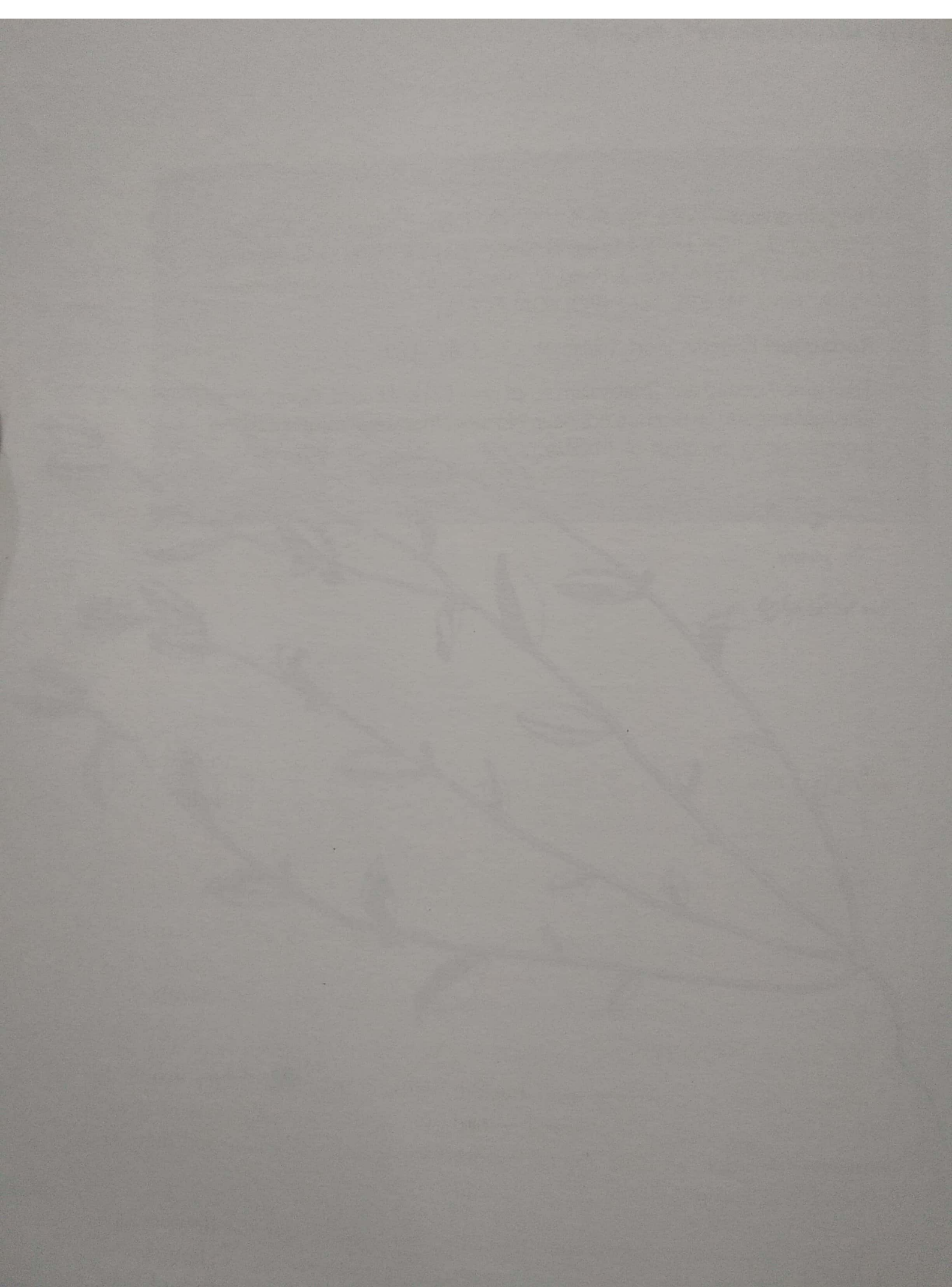


Fig. 67

Polygala arvensis Willd., Sp. Pl. 3: 876. 1802; Burt, Notes Roy. Bot. Gard. Edinburgh 32: 404. 1973; Manilal, Fl. Silent Valley 14. 1988; Sasidh. & Sivar., Fl. Thrissur 47. 1996; Sivar. & Philip, Fl. Nilambur 62. 1997. -*Polygala rheedei* Hassk., Flora 44: 616. 1861 [POLYGALACEAE].

Kodatsjeri Rheede, Hort. Malab. 9: 131, t. 67. 1689.

The name Kodaachaari [Malayalam script on t. 67] is still used, though rarely. The meaning and allusion are not clear. No other Malayalam name is available. It occurs along the coast of Malabar.





Corosinam

FIG. 68



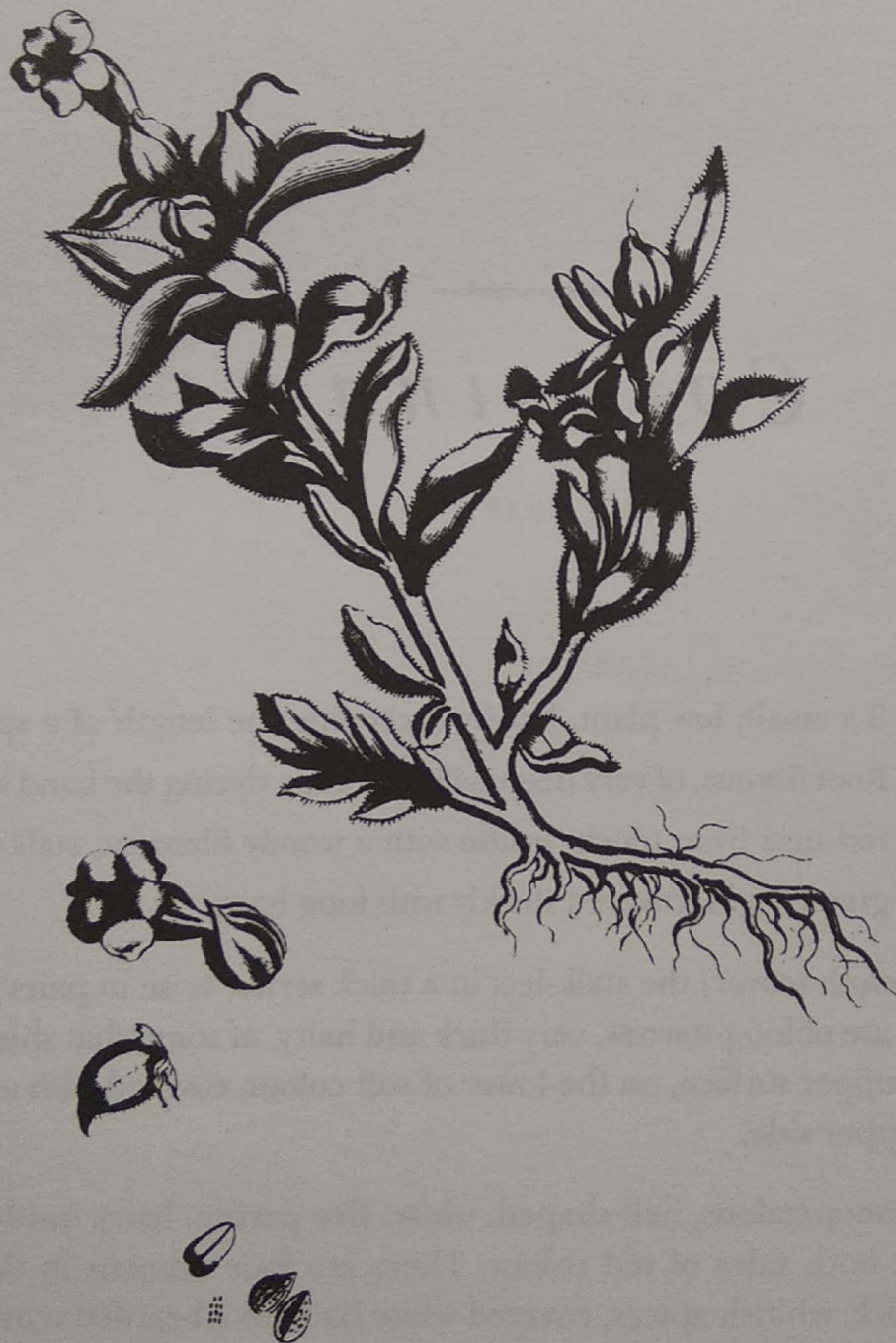
S a small, low plant, hardly exceeding the length of a span. Root fibrous, of very deep saffron colour, dyeing the hand with red-ness from touch, inside with a woody filament, stalk-lets green, rigid, covered thickly with long hairs.

Leaves which cloth (cover) the stalk-lets in a thick series, arise in pairs and are decussate, are oblong-narrow, very thick and hairy, of somewhat shining colour on the upper surface, on the lower of soft colour, covered with a rib, striating the upper side.

Flowers are monopetalous, bell-shaped, white, five partite, hairy inside, in the neck from both sides of red colour. There are four stamens in them, tipped with thick, whitish apices, covered white hairs in a bearded manner. The style is green and beardless: no smell.

The seed-capsules in hairy sheaths of flowers follow, after the flowers have fallen down, are oblong-round, somewhat cuspidate, striated in length with lyres, equipped with a pronounced suture on the inside in the tracts of lyres, when they are dry the bark (rind) is cartilaginous, white, rough. In them are

contained thick and very minute, oblong seeds, acuminate on one part, and attached to a middle, pointed, plane and membranous style, first green, then yellow, finally light red.



Corósiaam Læ.

കൊരോസാം Mal.

Corósiaam

கொசேயன் Tana.

سحار الجائع and.

Fig. 68

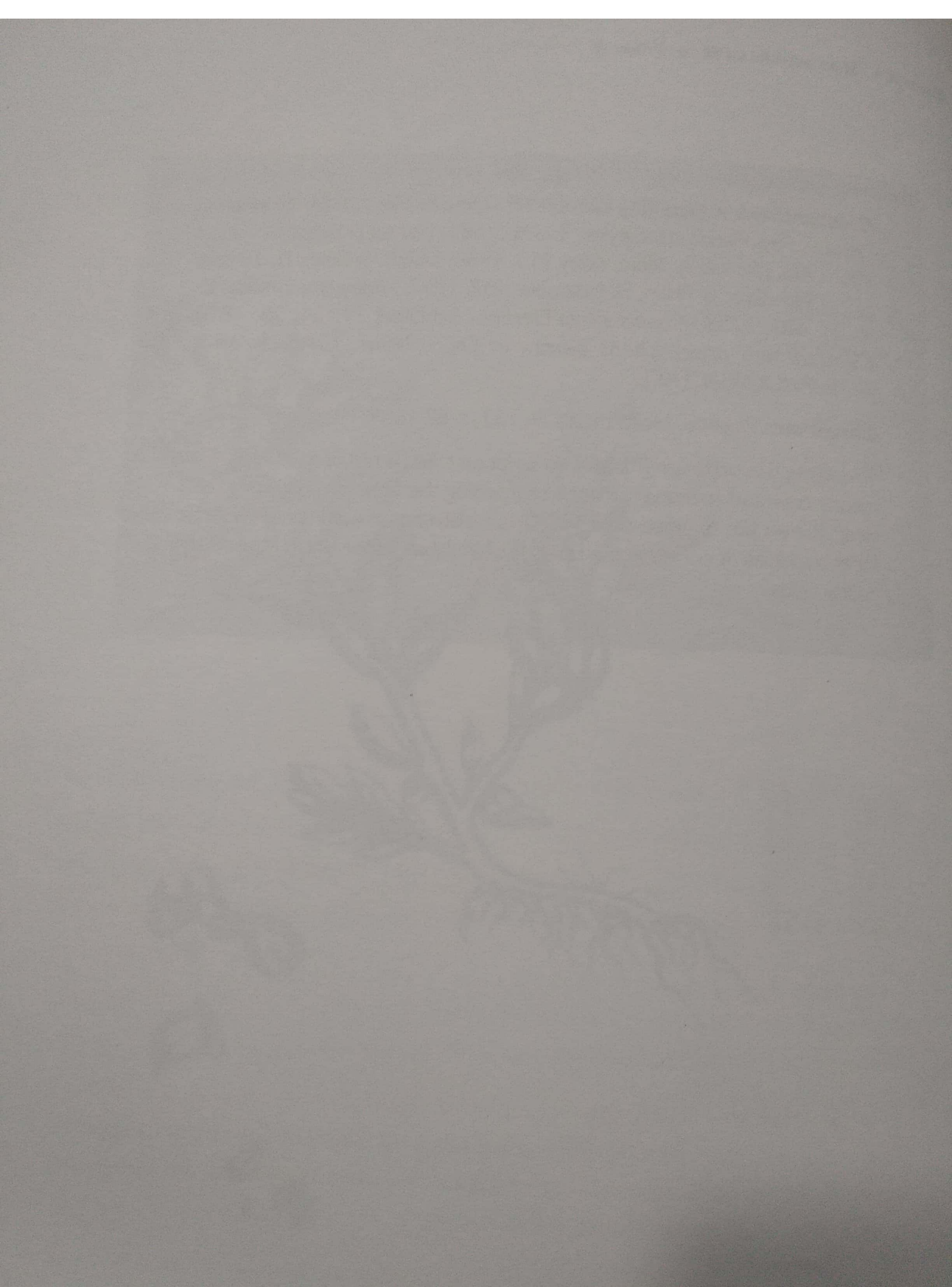
(Its Uses)

Difficulty of respiring is removed when the juice of this plant with *curcuma* (turmeric) is smeared on the bowels.

Centranthera indica (L.) Gamble, Fl. Madras 971. 1924; Cramer in Dassan., Rev. Handb. Fl. Ceylon 3: 396. 1981; Manilal & Sivar., Fl. Calicut 206. 1982; Manilal, Fl. Silent Valley 195. 1988; Sasidh. & Sivar., Fl. Thrissur 319. 1996; Sivar. & Philip, Fl. Nilambur 467. 1997. - *Rhinanthus indicus* L., Sp. Pl. 603. 1753. *Purshia ciliata* Dennst., Schlüssel 11, 24, 35. 1818. *Centranthera procumbens* Benth. in DC., Prodr. 10: 525. 1846 [SCROPHULARIACEAE].

Corosinam Rheede, Hort. Malab. 9: 133, t. 68. 1689.

The name Gorochanam [Malayalam script on t. 68] is not used for this. Gov means cow and rochanam means sharpening the appetite. Allusion is not clear. (Cows like to graze on it?) No Malayalam name is currently available for this species. It occurs in the uplands of Malabar, especially in abandoned paddy fields.





Pul-colli

FIG. 69.



HERE are two species of this plant, *Pul-colli* and *Catu-Pul-Colli*. The first one is called *Dadumari* in the language of the Brahmins, is a sub-shrub, from the kind of thickets, with the height of three or four feet, growing in sandy soils. Root woody and fibrous, with slight yellow bark. The stems as well as the branches knotted, tender, tender ones are green, older ones ash-coloured, with a whitish core inside.

Leaves arise on short, green petioles, plain on the inside, are oblong, cuspidate, slender, beset thinly with shaggy hairs on the lower part, especially around the rib-lets. The mid-rib with lateral ones stands out on both sides, mostly however on the lower side.

Flowers which spring up on branching petioles at the top, or burst out from the nodes towards the side of the stems, are seen many clustered together, are long, green, striated, hairy, oblong, narrow, white, four petalled, with a narrow neck; of these three are more uniform (similar), and stretched out in a winged manner from the side, the middle one is a bit more broad, and on

one side speckled upto the neck with red, small spots; the fourth one is placed from the opposite side of this, is very narrow, raised up like a plumule in a crest-like manner, bi-cuspidate at the apex. Have two white stamens, inserted to the upper orifice of the neck, provided with dark-red apices, with these, a

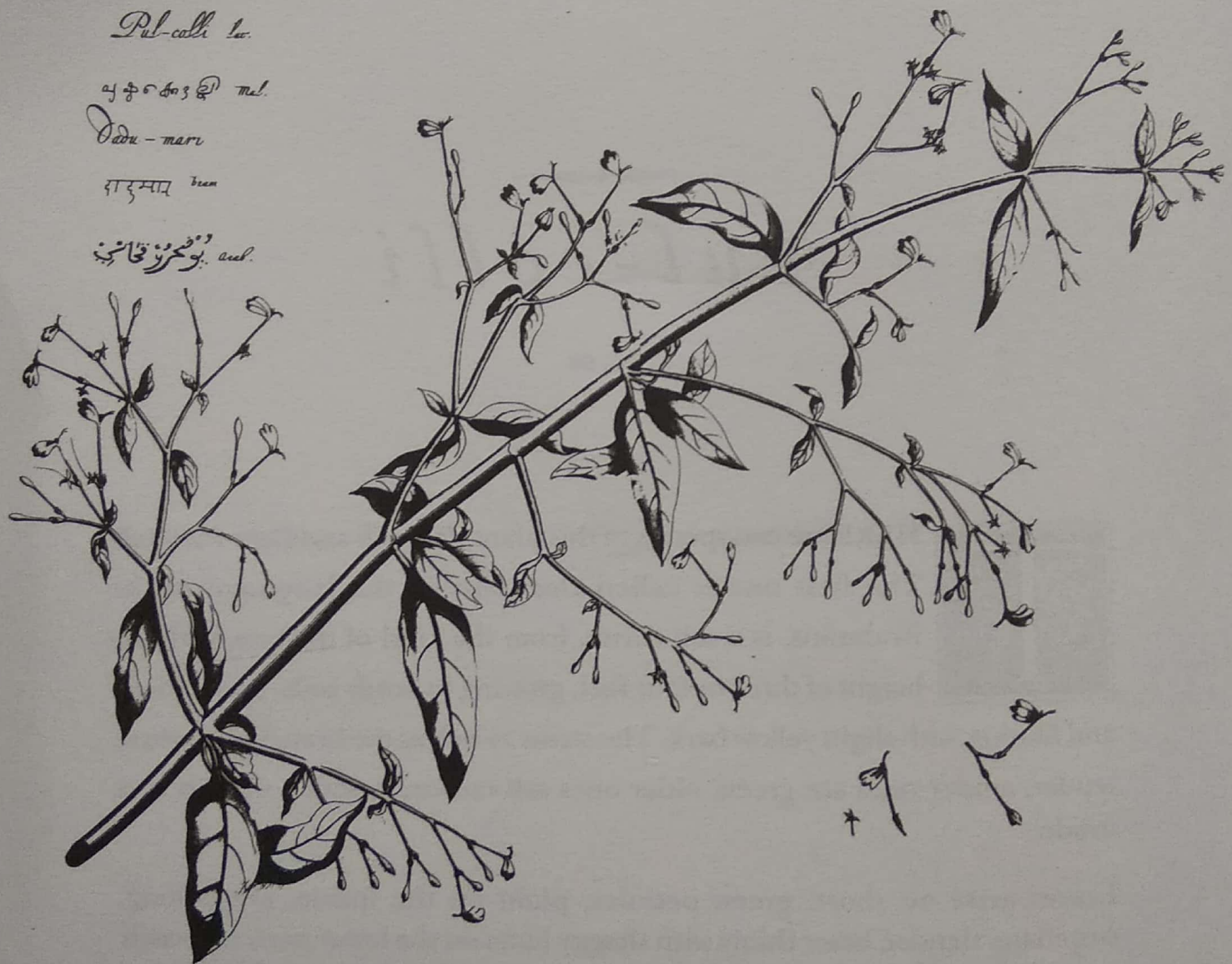


Fig. 69

white style, bicuspidate above, emerges from the mouth of the calyx; which is small, dark-green, a bit loose, five-foliate; in which closed up, is seen one oblong, round seed, giving out a white and reddish filament from the tip.

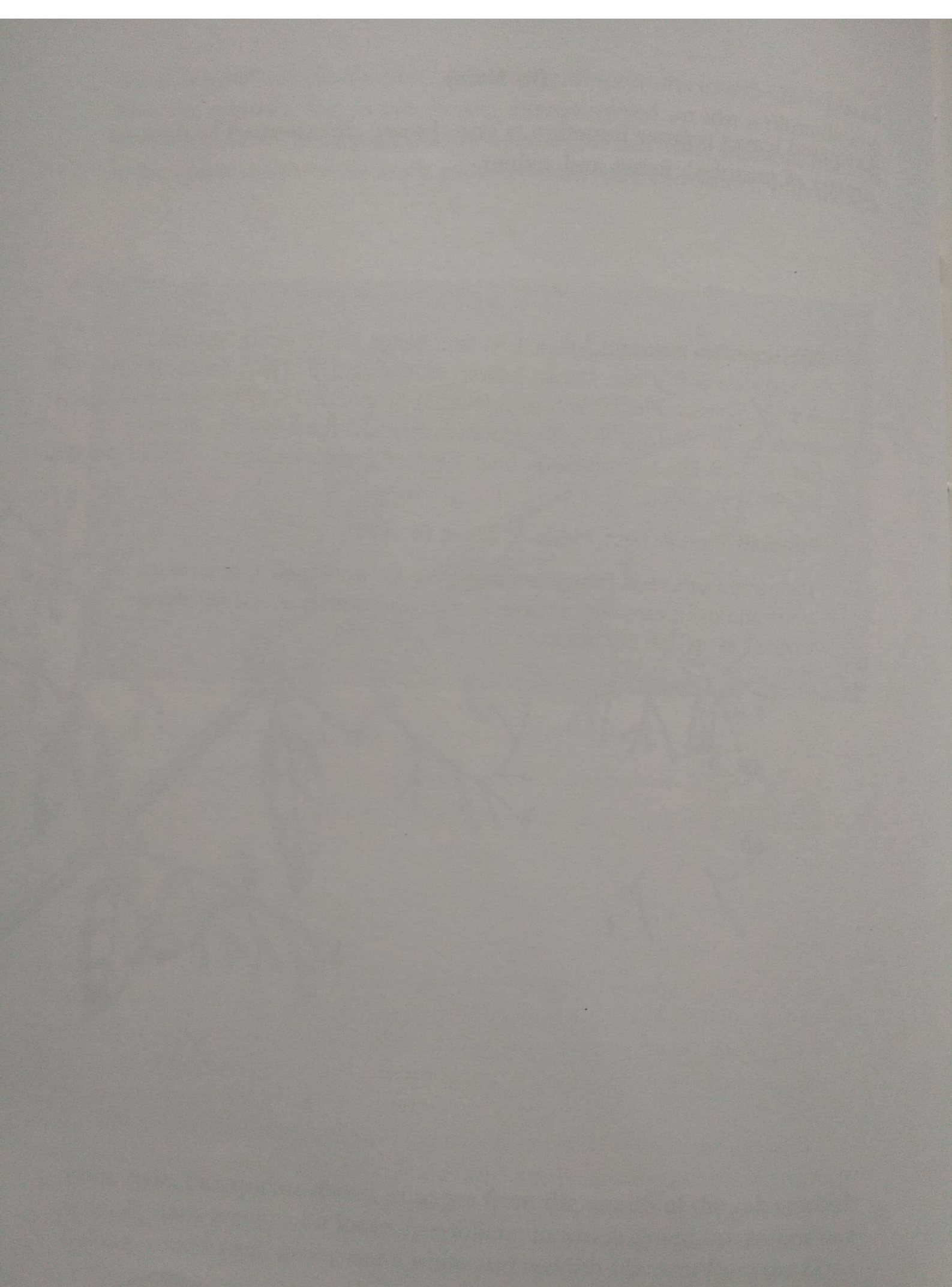
(Its Uses)

Levigated leaves remove impetigo (a skin disease characterised by thick-set clusters of pustules), itches and scabies.

Rhinacanthus nasuta (L.) Kurz, J. As. Soc. Bengal 39: 79. 1870; Santapau, Fl. Khandala 210. 1967; Manilal & Sivar., Fl. Calicut 215. 1982; Sasidh. & Sivar., Fl. Thrissur 346. 1996; Sivar. & Philip, Fl. Nilambur 515. 1997. -*Justicia nasuta* L., Sp. Pl. 16. 1753. *Rhinacanthus communis* Nees in Wall., Pl. As. Rar. 3: 109. 1832, nom. illeg. (incl. type of *Justicia nasuta* L. 1753) [ACANTHACEAE].

Pul-colli Rheede, Hort. Malab. 9: 135, t. 69. 1689.

The name Puzhukkolli [Malayalam script on t. 69] is still used; puzhu means worm and kolli means killer, a reference to its use in medicine, as a vermifuge. It occurs in uplands of Malabar.





Nelip u

FIG. 70



LIKES moist and marshy places, chiefly where rice grows, which it embraces (surrounds) like a climber, with sinuous stalk. Root slender, white, formed of short, hairy fibres; giving out only one stalk, not dividing itself into others, which is round, slender, green, covered with new leaf.

Flowers arise solitarily in the stalk here and there on plain, uncial (hooked), light green petioles, which are guided by a small, cuspidate leaf at the origin, are blue, two petalled, dissimilar, one of them is hollow like a net, with an orifice facing downwards; the other round, erect, turned to the reniform leaf; which is net like, is blue, white at the bottom, striated in length with blue-purple vein, the other wholly blue-purplish, its hanging horn is white and shiny, at the tip however from green to blue. In these are two small, white stamens, bluish above, inserted to the horn, and in its mouth covered with leaves; from this there comes out a broad, thick, green style, which becomes black above and shines. The flowers, moreover, around the horn and the round leaf are propped up by two cuspidate green, bluish and purplish leaves.

(Its Uses)

From this plant with the addition of some others of similar power, a drink is prepared, diminishing the bulging of the abdomen from gas; a bath to be smeared on the head is prepared for the same end from it only.

Nelipa L.
 നെലിപ്പ മ.
 نَلِيْبُ ar.

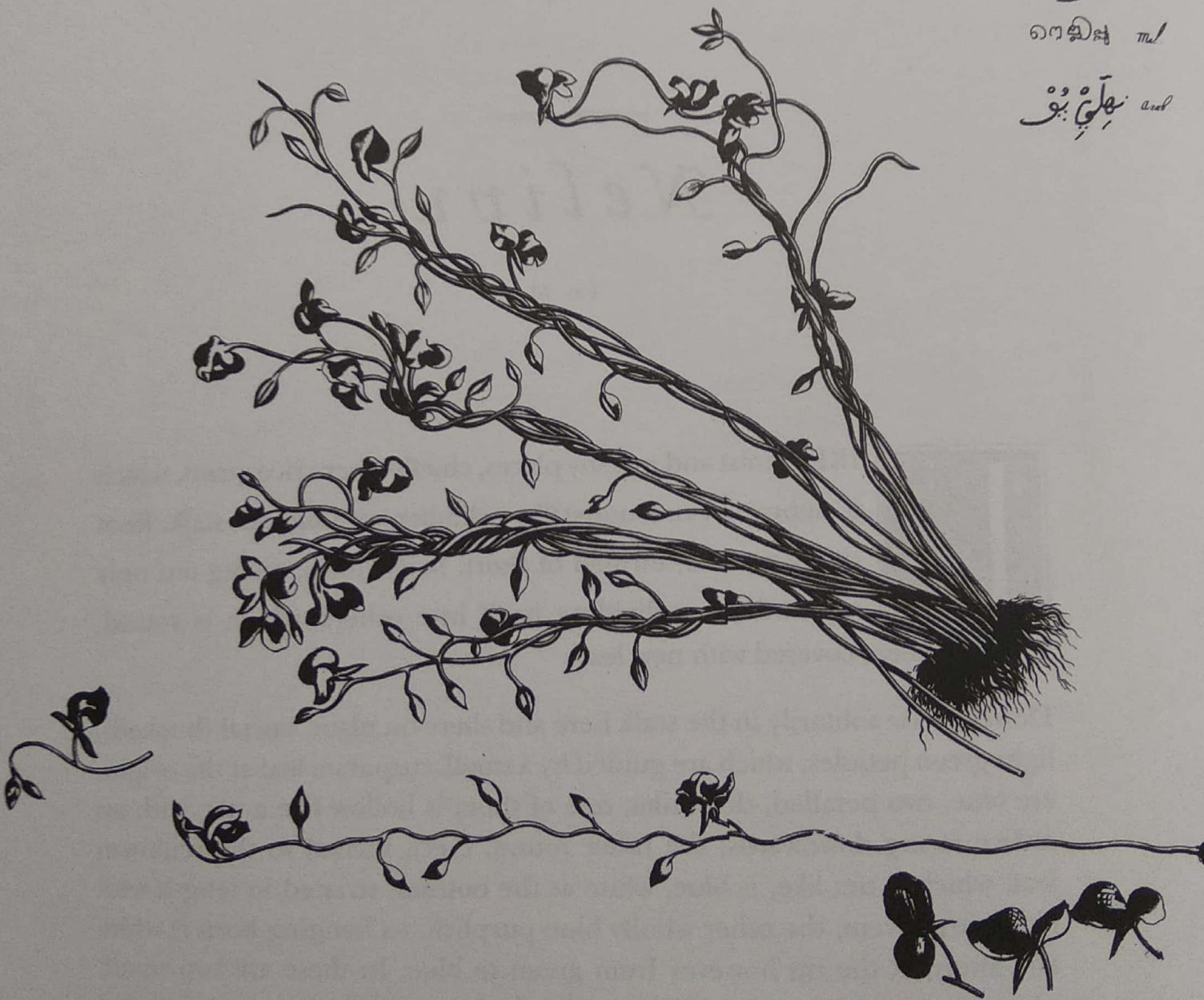
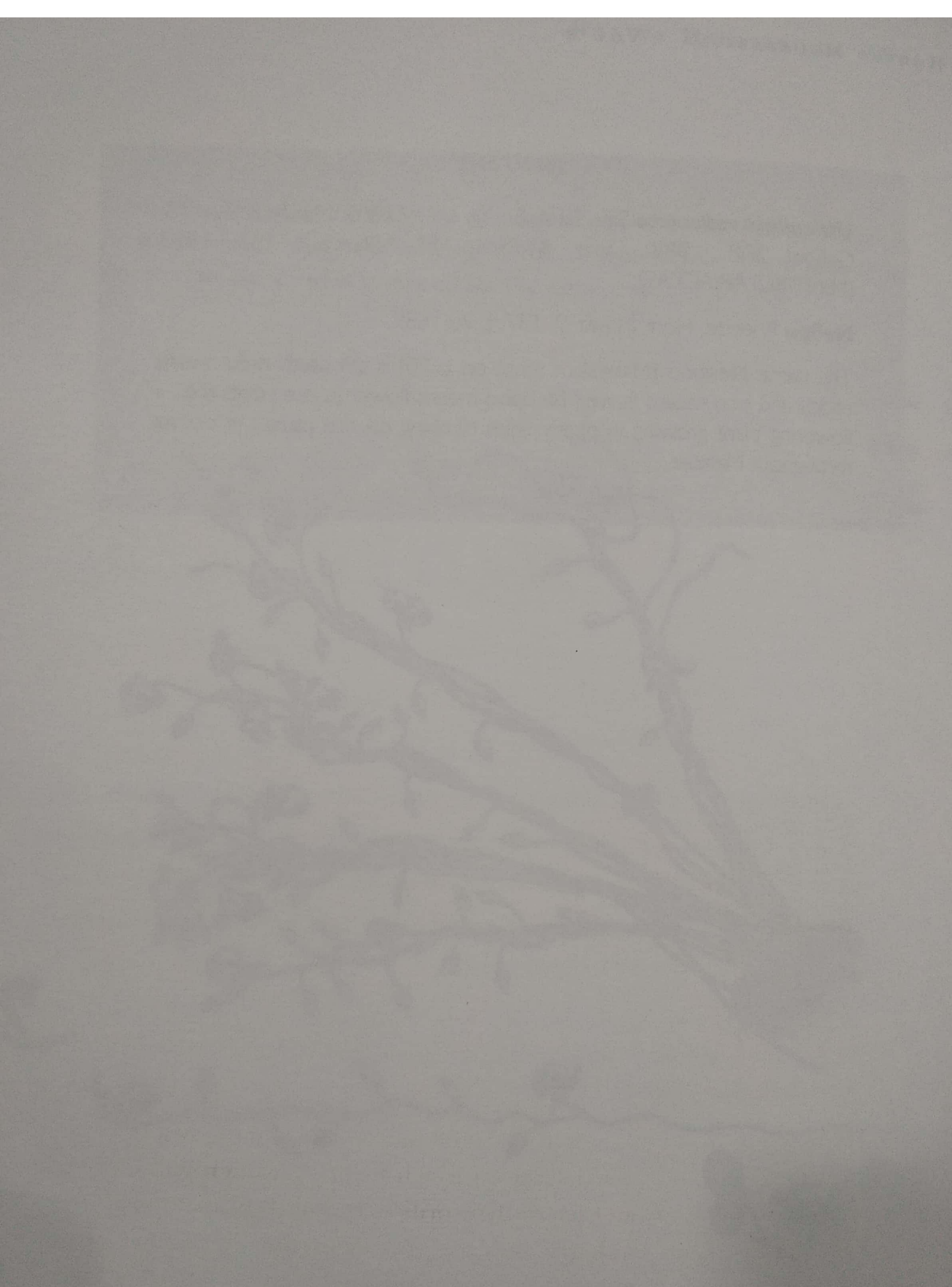


Fig. 70

Utricularia reticulata Sm., Exot. Bot. 2: t. 119. 1805; Manilal & Sivar., Fl. Calicut 208. 1982; Sivar. & Philip, Fl. Nilambur 481. 1997 [LENTIBULARIACEAE].

Nelipu Rheede, Hort. Malab. 9: 137, t. 70. 1689.

The name Nellipoo [Malayalam script on t. 70] is still used; nellu means paddy and poo means flower. Nellipoo means flower in rice plants (i.e., a flowering plant growing in paddy fields climbing on rice plants). It occurs throughout Malabar.



Kotsjiletti-pulsu

FIG. 71.



ROWS in watery places. Root fibrous, white, the stalks arise from the root, are angular, dark-green, white and transparent below towards the root, in the meantime spirally twisted with corners, are slender, rigid, straight, inside aqueous. With these also arise oblong leaves, first surrounding the stalks, closed with the sides, hardly exceeding a cross thumb in width, thick, green, shining on the inside, water-white below, striated in length with veins opening on the sides, disappearing above, of watery taste.

Flowers are seen in oblong-round, red-saffron and shining heads, covered with imbricate and shield like leaves, which are in some way round and spoon like, bursting out from each of their orifices on short, plane, broad, round petiole, first from the lower ones and then from the upper ones and are three petalled, with more narrow claws, somewhat curled with small curves or waves, of yellow colour and like shining silk. In them are six, plane stamens, three are more broad, provided with oblong, erect apices, inserted to the claws of the leaves, thickly surrounded by hairy stamens; three more slender

ones, coming out from the middle of the flowers, placed in between three broader ones, tipped with plane apices.

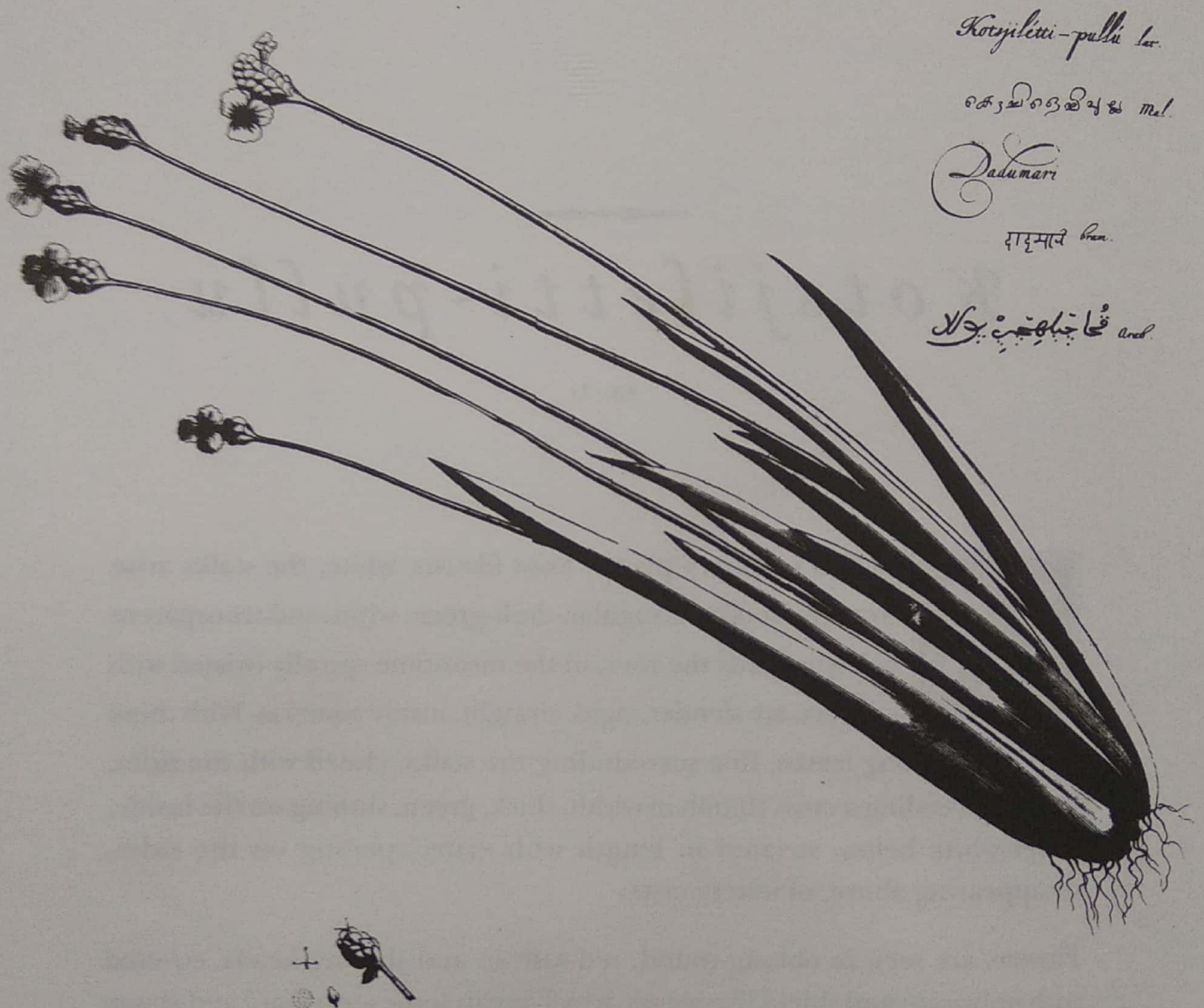


Fig. 71

Oblong seed-bud is seen among each spoon-shaped leaf of the head, which are plane on the inside, and convex on the outside, and are striated with green sutures, one in the middle of the plane side and two on the more convex side, and contain in themselves numerous seeds, seen through the membranous rind, are small, somewhat oblong, yellow.

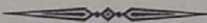
(Its Uses)

The juice of the leaves mixed with vinegar resists impetigo (a skin disease characterised by thick-set clusters of pustules). The leaves with root boiled in oil, are taken against leprosy; cooked with *Mungo* and drunk, promotes sleep.

Xyris indica L., Sp. Pl. 42. 1753; P. Royen in Fl. Males. I, 4: 373. 1953; Manilal & Sivar., Fl. Calicut 294. 1982 [XYRIDACEAE].

Kotsjiletti-pullu Rheede, Hort. Malab. 9: 139, t. 71. 1689.

The name Kochilechipullu [Malayalam script on t. 71] is not used. Kochu means small or short; elachi means "with leaves"; and pullu is grass; i.e., a grass like plant with short leaves. No other Malayalam name is currently available for this plant. It is a common weed of abandoned paddy fields in Malabar.



Min - angani

FIG. 72



IN the language of the Brahmins, is called *Matsjadada*, is a small plant of one and a half cubits, liking sandy soil. Root fibrous, hairy, woody, black. Stalks quadrangular, knotted, woody, covered with long white hairs, in the nodes surrounded here and there in a crown like manner by lateral stalk-lets in twos in a decussate order.

Leaves are attached to the stalks in twos at the nodes, are small, oblong-narrow, lightly crenate in the margin, slender, soft, beset with loose hairs. The mid-rib, with the lateral ones stands out on the lower side.

Flowers arise numerous and clustered together in oblong-round heads, which are attached to the stalks and are surrounded by leaves, emerging from foliaceous and hairy stalk-lets, and are less hairy, monopetalous, with five tips, white, then turning blue. In the middle there is the style in which are seen five very minute stamens, inserted in the interior neck of the flowers, provided with apices, first white, yellow then black. In the buds themselves

flowers are closed, cuspidate, light green; their smell is unpleasant and displeasing. In each are contained three or four small seeds turning black from white.

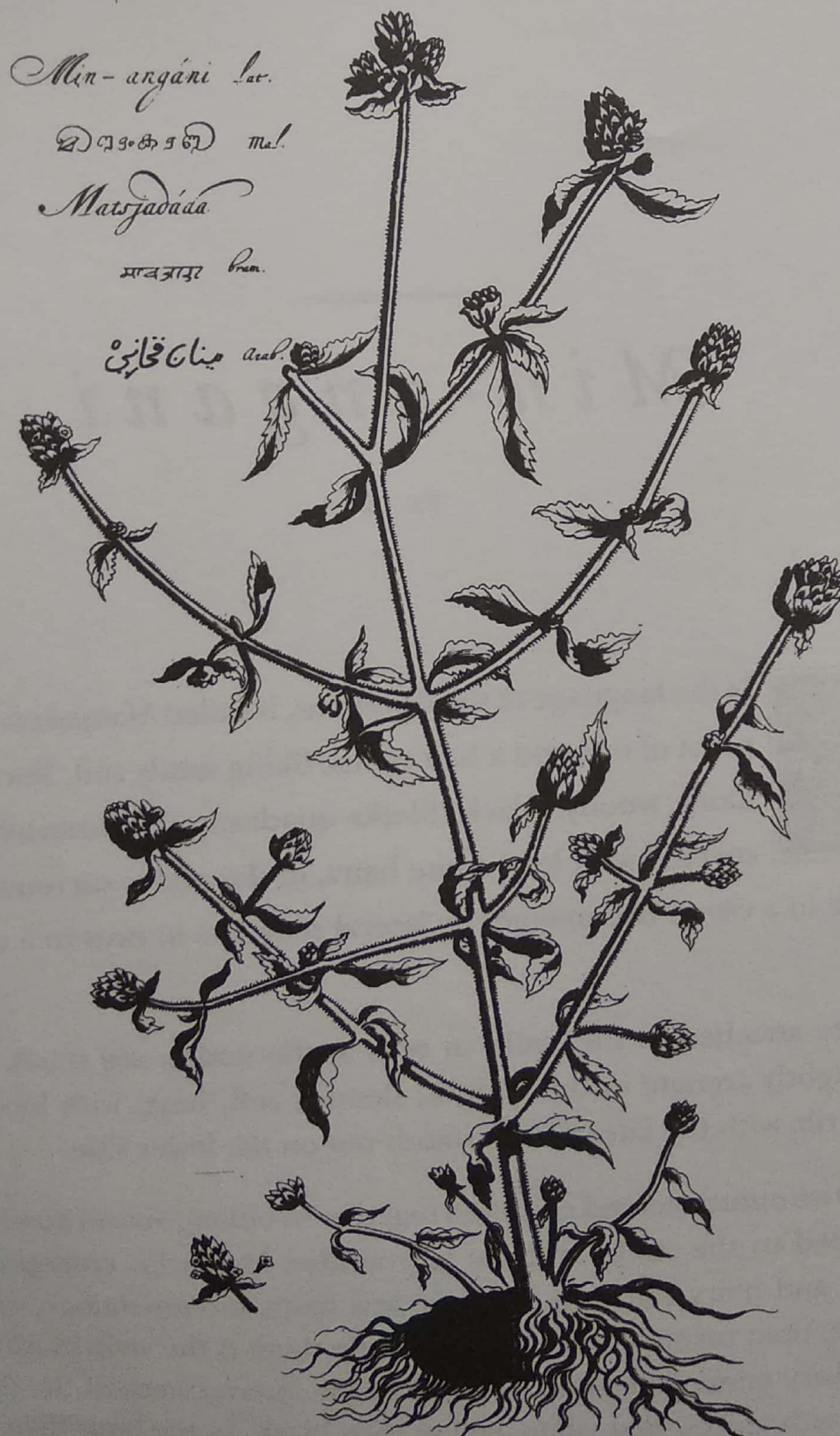


Fig. 72

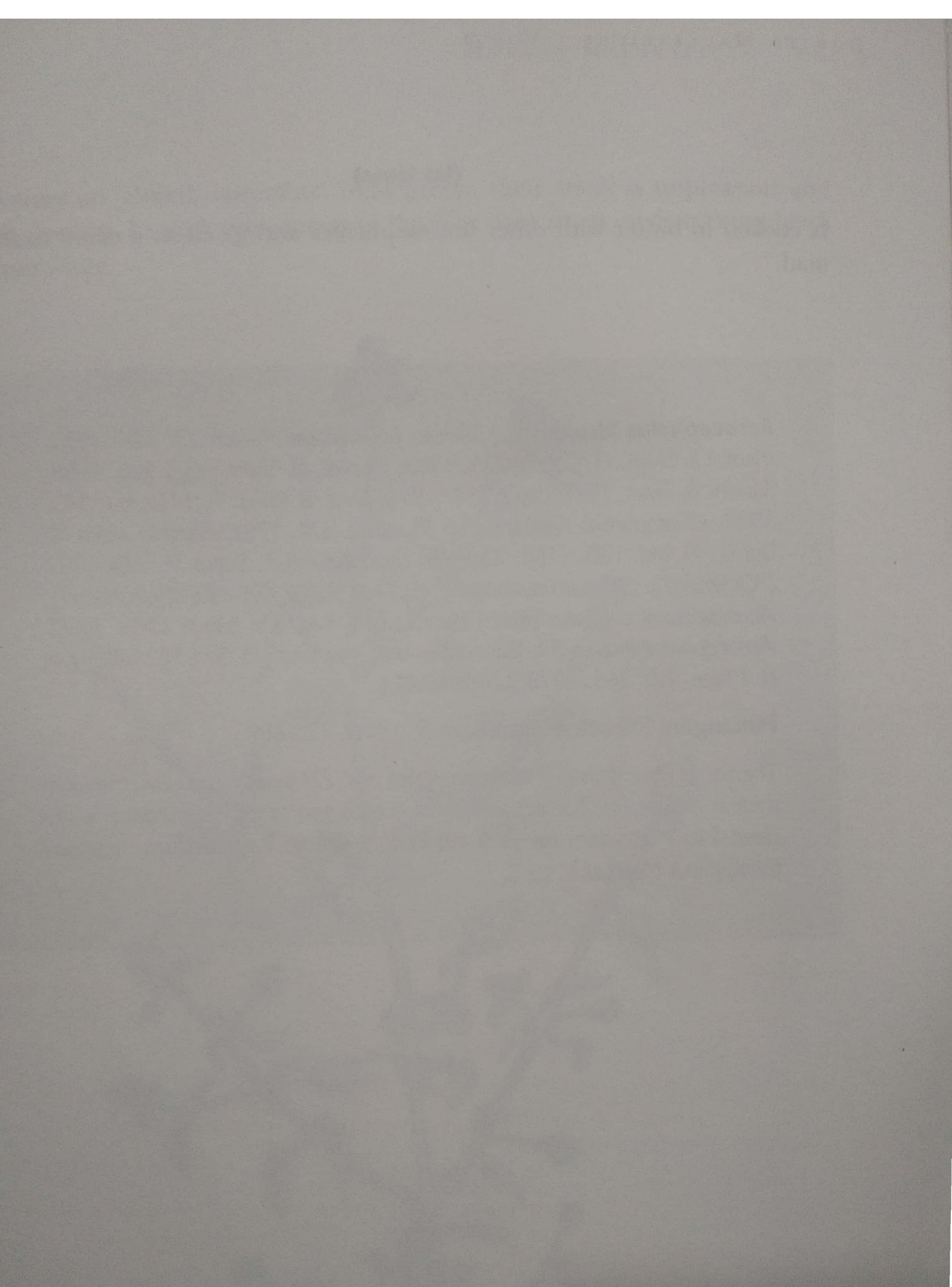
(Its Uses)

Is cooked in butter with other anti-nephritics and given as a drink to the mad.

Acrocephalus hispidus (L.) Nicols. & Sivadasan, Taxon 29: 324. 1980; Manilal & Sivar., Fl. Calicut 235. 1982; Manilal, Fl. Silent Valley 215. 1988; Sasidh. & Sivar., Fl. Thrissur 358. 1996; Sivar. & Philip, Fl. Nilambur 543. 1997. - *Gomphrena hispida* L., Sp. Pl. ed. 2, 326. 1762. *Prunella indica* N. Burm., Fl. Ind. 130. 1768. *Ocimum capitellatum* L.f., Suppl. Pl. 276. 1782 ("Ocimum"). *Ocimum capitatum* Roth, Nov. Pl. Sp. 276. 1821 ("Ocimum"). *Acrocephalus capitatus* (Roth) Benth., Bot. Reg. 15: sub t. 1300. 1830. *Acrocephalus indicus* (N. Burm.) Kuntze, Rev. Gen. Pl. 511. 1891; Keng in Fl. Males. 1,8: 365. 1978 [LAMIACEAE].

Minangani Rheede, Hort. Malab. 9: 141, t. 72. 1689.

The name Meenankani [Malayalam script on t. 72] is not in use now; Meenam means Pisces (in Zodiac) and kaani means spectator. The allusion is not clear. No Malayalam name is currently available for this plant. It occurs throughout Malabar.





Tsjeru-uren

FIG. 73



Is a plant of three feet in height, growing in sandy soils. Root fibrous, white. Branches partly green and partly reddish.

Leaves arise in branches here and there, are oblong, sharply crenate in the margins. The mid-rib with lateral ones stands out on the lower side, marking the upper-side.

Flowers many clustered together are attached to the tips of branches, are cyathia-shaped, monopetalous, five partite, striated in length with veins, in the tract of which are of rose colour, on the inside, yellow towards the claws. In them are nine, erect stamens provided with yellow apices with a shorter style.

Seed-bearing globules are green, hairy, then turning reddish, at the top a bit cuspidate, striated with five hollow sutures into which they dehisce. In these are contained five seeds, one to each side in between the sutures, separated by partition walls, are three sided, with one round on the outside and two plain.

(Its Uses)

The whole plant, except the root, is cooked in oil with similar ones of the same power, and provides an efficacious remedy for the bite of aquatic snakes.

Tojéu-úren Lac.

ചെട്ടിനെൽ Mal.

جوزف وورع Arab.

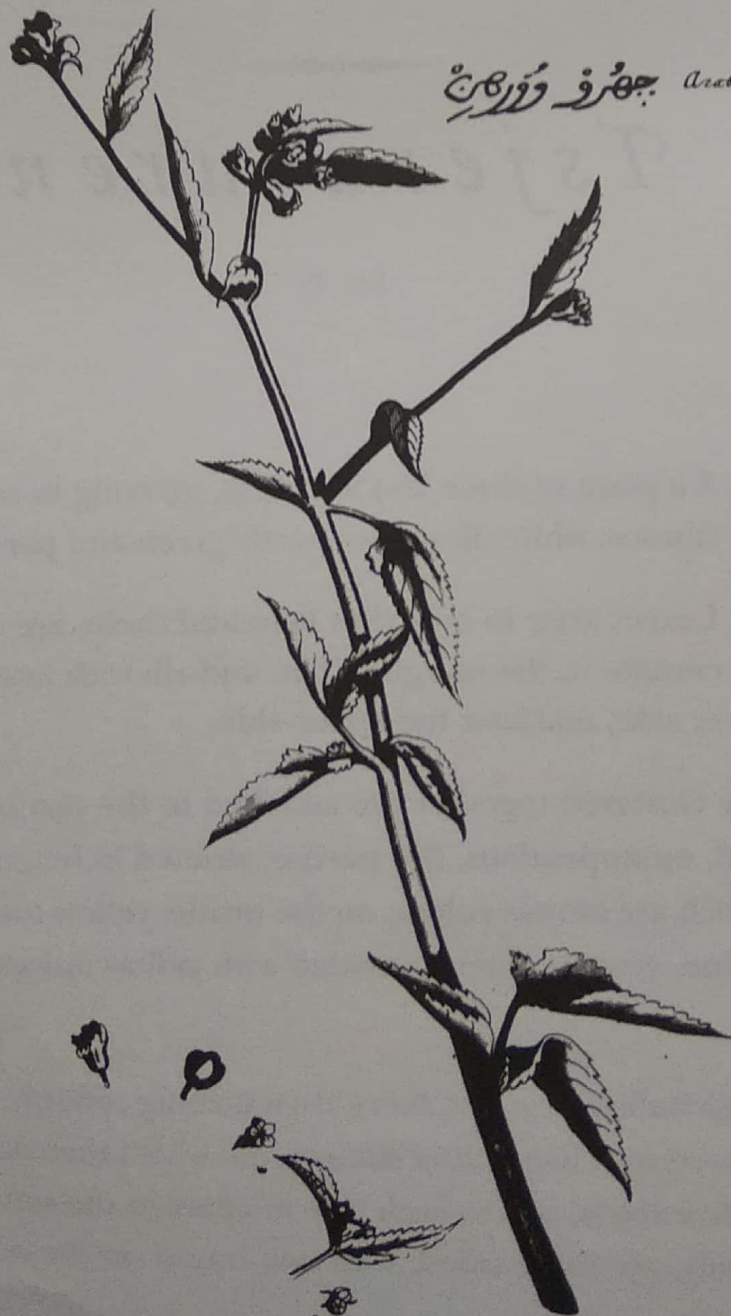
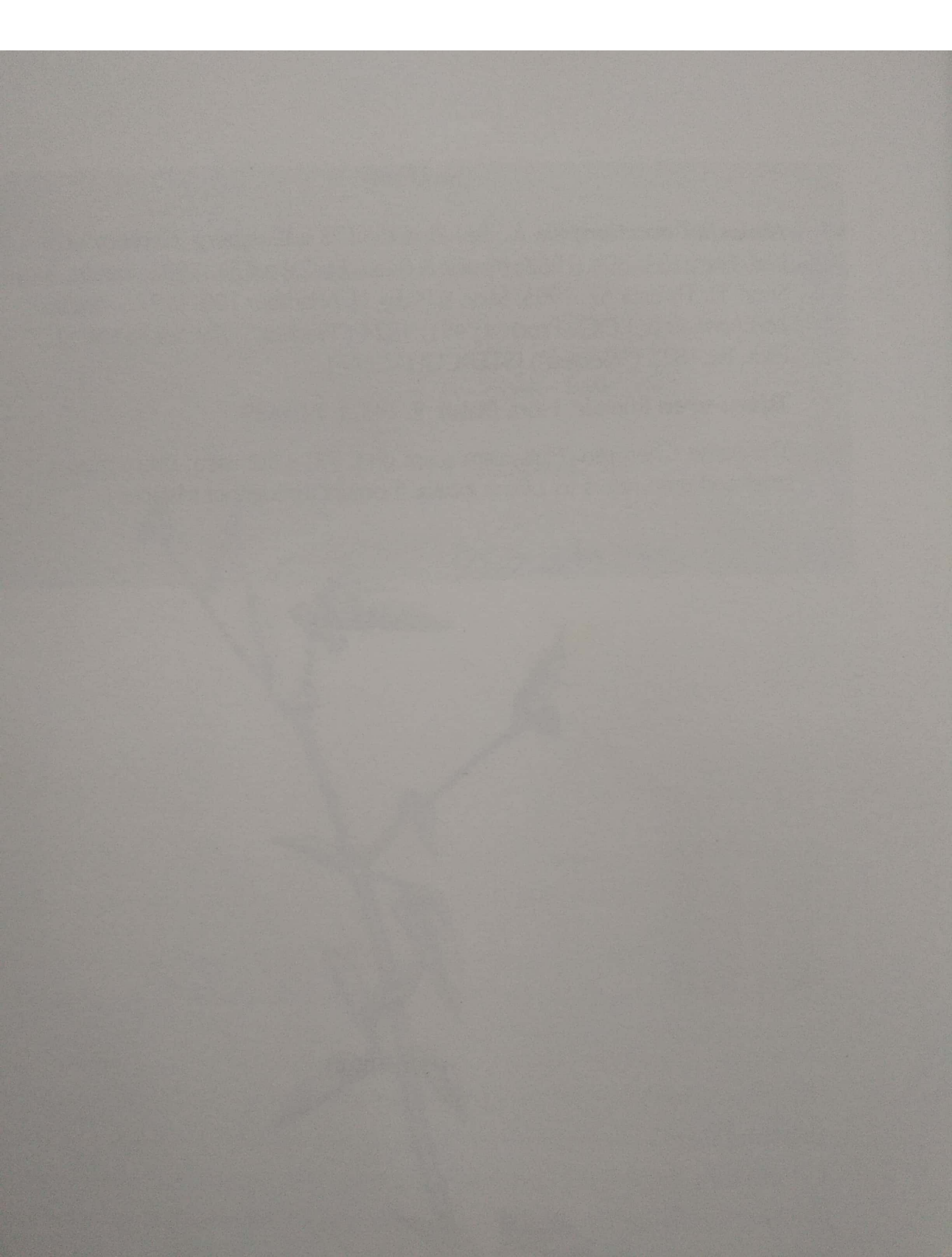


Fig. 73

Melochia corchorifolia L., Sp. Pl. 675. 1753; Goldberg, Contrib. U.S. Nat. Herb. 34: 304. 1967; Manilal & Sivar., Fl. Calicut 51. 1982; Sasidh. & Sivar., Fl. Thrissur 67. 1996; Sivar. & Philip, Fl. Nilambur 100. 1997. -*Riedlea corchorifolia* (L.) DC., Prodr. 1: 491. 1824 ("Riedleia"). *Riedlea radiata* Bl., Bijdr. 86. 1825 ("Riedleia") [STERCULIACEAE].

Tsjeru-uren Rheede, Hort. Malab. 9: 143, t. 73. 1689.

The name Cheruren [Malayalam script on t. 73] is still used; cheru means small and uren refers to *Urena lobata*. It occurs throughout Malabar.





Iribeli

FIG. 74.



HERE are two species of this plant, one of the same name called *black Iribeli*, the other *Ramacciam*, called *white Iribeli*. The first is called *Carabalo* by the Brahmins and is a small plant of two or three feet, growing in sandy soils.

Root quite fibrous and hairy, containing inside slender and woody filament, with bitter bark, when dried up is of ash-obscure colour, from which, for difference of *Ramacciam* or *Iribeli white*, is named black; of pleasing and lively colour, is preferred to *Iribeli white*, which is less smelly; that however, which is seen in the Kingdom of Rapolim, is of more lively smell than others and is preferred more; the stalks with stalk-lets are green and reddish, on the inside very aqueous and green, covered with loose hairs.

Leaves arise in long, green and weak petioles, round and a bit oblong, thick, aqueous, soft, smooth, covered with more loose hairs, dark-green. The mid-rib with the lateral ones stands out on the lower side, striating the upper side, taste is aqueous and bitter.

The plant having become old, gives out stalks at the tips of which flowers arise in spikes. Is propagated by the planting of stalks, is planted in the month of May, nay, in the whole year, in white loose soils, where the roots, sought after in the market because of the smell, spread out more liberally,



Jeubeli *Lee.*
 ഉരിയെരി *mal.*
 جهر قوطين *Arab.*
 കറമാങ്ങ *Sim.*

Fig. 74

best root arise more abundantly with a more lively smell, the natives put cut stalks into an earthen vase, perforated in many places and filled with moist sand, by which access is made possible to the sending down of roots, and in

this manner, three or four vases with their implanted stalks, put over (above) them mutually, which then, they surround with sand collected from all sides in a heap. In the sixth month after sowing, roots are cut out.

(Its Uses)

Root is used in anti-cachetic (cachexia is morbid state of body system) decoctions, chiefly for hot fever and burning of liver, so also for the swelling of hands and feet, also for gas; relieves head-ache, if crushed and mixed with woman's milk and smeared on the head. Oil drunk with hot water, cures hot fever, so also burning of liver and many ills, and hot dysentery mixed with purulent matter; moreover it sets aright the stinking and unpleasant condition of the body, and does good in the pain of eyes. The oil extracted from the root through distillation, first is turbid and black, then, when the white or ash-coloured dregs have been sent down to the bottom, is clear and transparent, beautifully reddish and glittering, of very pleasing smell, of biting taste, in distillation ascending with water and swimming over it.

Coleus amboinicus Lour., Fl. Cochinch. 2: 372. 1790; Cramer in Dassan., Rev. Handb. Fl. Ceylon 3: 138. 1981; Manilal & Sivar., Fl. Calicut 237. 1982. -*Plectranthus amboinicus* (Lour.) Spreng., Syst. Veg. 2: 690. 1825; Willemse, Blumea 25: 509. 1979; Keng in Fl. Males. 1,8: 387. 1978. *Coleus aromaticus* Benth. in Wall., Pl. As. Rar. 2: 15. 1831. *Plectranthus aromaticus* Roxb., Fl. Ind. 3: 22. 1832, non Roxb. 1814 [LAMIACEAE].

Iribeli Rheede, Hort. Malab. 9: 145-146, t. 74. 1689.

The name Iribeli [Malayalam script on t. 74] is still in use; now better known as Panikoorka; pani means fever and koorka refers to *Coleus rotundifolius*, a reference to the use of the plant in treating fever. It is cultivated as a medicinal plant in Malabar.

The place of occurrence of a good variety of this plant is mentioned as Rapolim, now called Edappalli, a northern suburb of the city of Cochin.



Perim-munjā

FIG. 75



LIKES Sandy soils. Branches round, green, a bit woody and glabrous. Leaves arise on oblong, round, slender petioles, accompanied by two small, very narrow leaflets at the origin (base), and are oblong, towards the petiole with a broad and round space, more narrow towards the anterior part, drawn into a point, serrate at the margin, slender, rough, of pleasing smell. The mid-rib with lateral ones stand out on the lower side, also on the upper side, but not so highly. No flowers.

(Its Uses)

The leaves crushed with aromatic reed and garlic in rice-water, gives an antispasmodic ointment, which is the more efficacious if the powdered bark of the root, with the washing of rice and butter is taken daily.

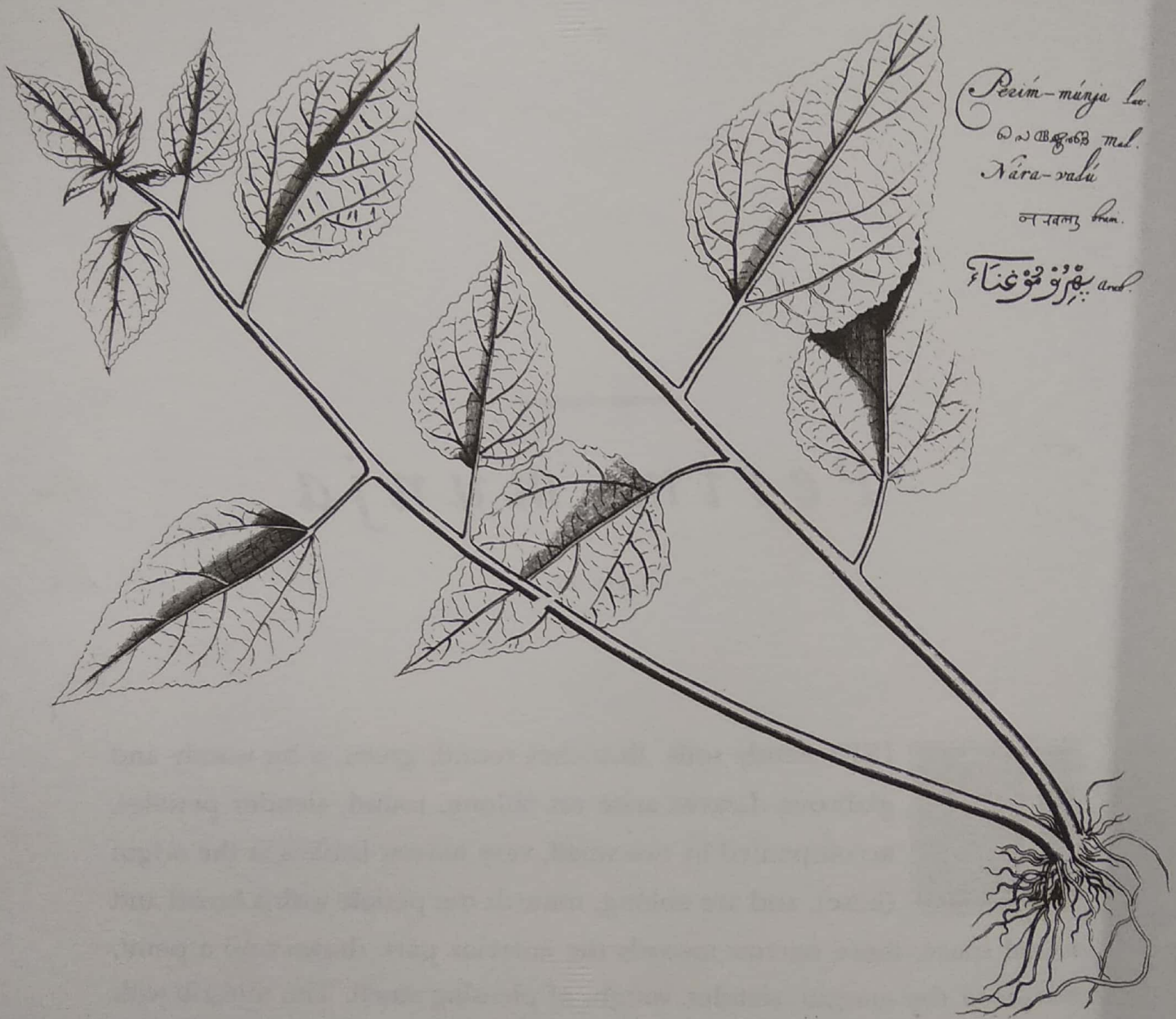


Fig. 75

Acalypha fruticosa Forssk., Fl. Aegypt.-Arab. 161. 1775; Manilal & Sivar., Fl. Calicut 269. 1982; Sivar. & Philip, Fl. Nilambur 601. 1997 [EUPHORBIACEAE].

Perim-munja Rheede, Hort. Malab. 9: 147, t. 75. 1689.

Perumunja [Malayalam script on t. 75] is still used; perim means large but the meaning of and allusion to the word munja is not clear. It is very common in the Palghat region of Malabar.



Tardavel

FIG. 76



LS a low plant, enjoying sandy soil. Root red, fibrous, woody inside. The stalks quadrangular, with nodes, hairy, green, then reddish, old ones turning red, dried ones ash-coloured.

Leaves two by two are decussate, cover the stalks at the nodes, are small, oblong, thick, rigid, curly, hairy, slightly rough, especially in the margin, on the lower side striated with the rib and rib-lets, dark.

Flowers arise, four, six, also in twos or threes, in the shoots from above the origin of leaves, are purple-pale, four petalled, cuspidate, somewhat hairy, striated in length with stamens with erect, and from green-bluish or purplish apices; the style is long, white, bifurcate at the top. The calyx is four-foliate, on the outside hairy.

Seed-capsules are oblong, round, thick and hairy, of red colour, and are first the very petiole of the flowers, in each are contained two oblong seeds, separated by a thin membranous partition, convex on one side, on the other plane, furrowed, of dark red colour.

(Its Uses)

The juice pressed out and boiled with butter is good for lenteria (a form of diarrhoea, with liquid evacuation of undigested food). The root is an antidote (for poison), if crushed and the chest is smeared with it; which fluid, while remaining on the chest there is no suspicion of poison; otherwise, it is the most certain sign that poison is present under.

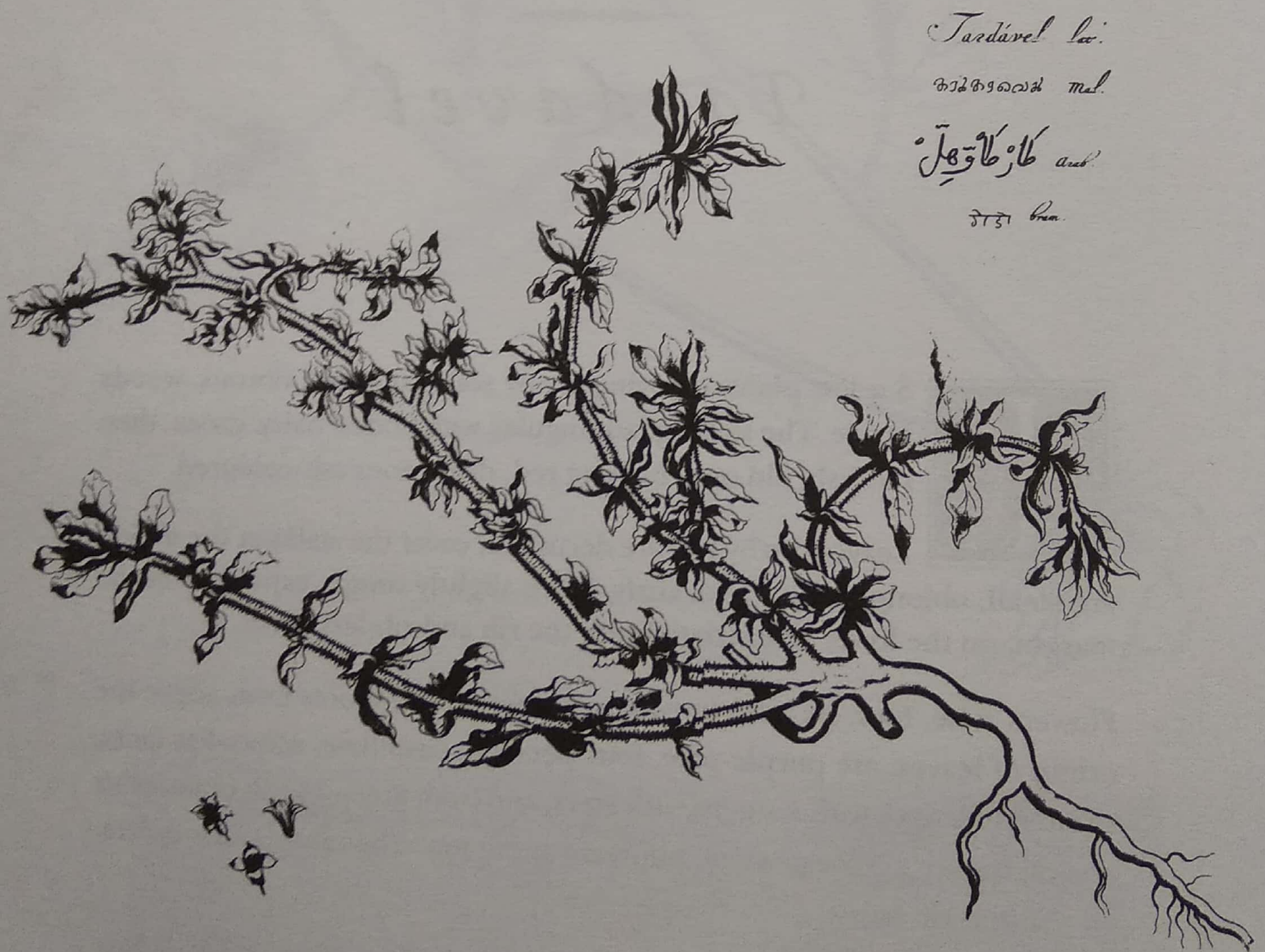


Fig. 76

Spermacoce hispida L., Sp. Pl. 102. 1753; Verdc. in Fl. Trop. E. Africa Rubiac. Part 1: 361. 1976. -*Borreria hispida* (L.) K. Schum. in Engl. & Prantl, Nat. Pflanzenfam. IV.4: 144. 1891, non Spruce ex K. Schum. 1888. *Spermacoce articularis* L.f., Suppl. Pl. 119. 1782. *Spermacoce scabra* Willd., Sp. Pl. 1: 572. 1797. *Borreria articularis* (L.f.) F. N. Williams, Bull. Herb. Boiss. ser. 2, 5: 956. 1905; Hara et Gould in Hara et al., Enum. Fl. Pl. Nepal 2: 200. 1979 [RUBIACEAE].

Tardavel Rheede, Hort. Malab. 9: 149, t. 76. 1689.

The name Tarthaaval [Malayalam script on t. 76] is not used. Tar means noble or respected; and tavel means "so much or so far". The allusion, perhaps, is to its property of denoting the absence (or presence) of poison, so far as it (the juice) remains on the chest of the person, when smeared. No other Malayalam name is currently available for this plant. It occurs throughout malabar.

Entada

FIG. 77



S a low shrub, growing in sandy soils.

Branches green, round, woody, rigid, striated, with shoots which they spread covered everywhere with small, green, very narrow, cuspidate, rigid leaves which in the bigger braches turn themselves downwards; the branches with their leaves preserve long their greenness.

Flowers are oblong heads, are feather-shaped from the imitation of leaves, green-white, attached to the tips of shoots.

Entada rheedei Spreng., Syst. Veg. 2: 325. Jan-Mai 1825 ("*rheedii*"); Britto & Matthew in Matthew, Fl. Tamilnadu Carn. 3(1): 542. 1983; Panigrahi, Taxon 34: 714. 1985; Sasidh. & Sivar., Fl. Thrissur 170. 1996; Sivar. & Philip, Fl. Nilambur 243. 1997. - *Mimosa entada* L., Sp. Pl. 518. 1753. *Entada monostachya* DC., Prodr. 2: 425. mid-Nov. 1825, nom. illeg. (incl. type of *Entada rheedei* Spreng. Jan-Mai 1825) [FABACEAE].

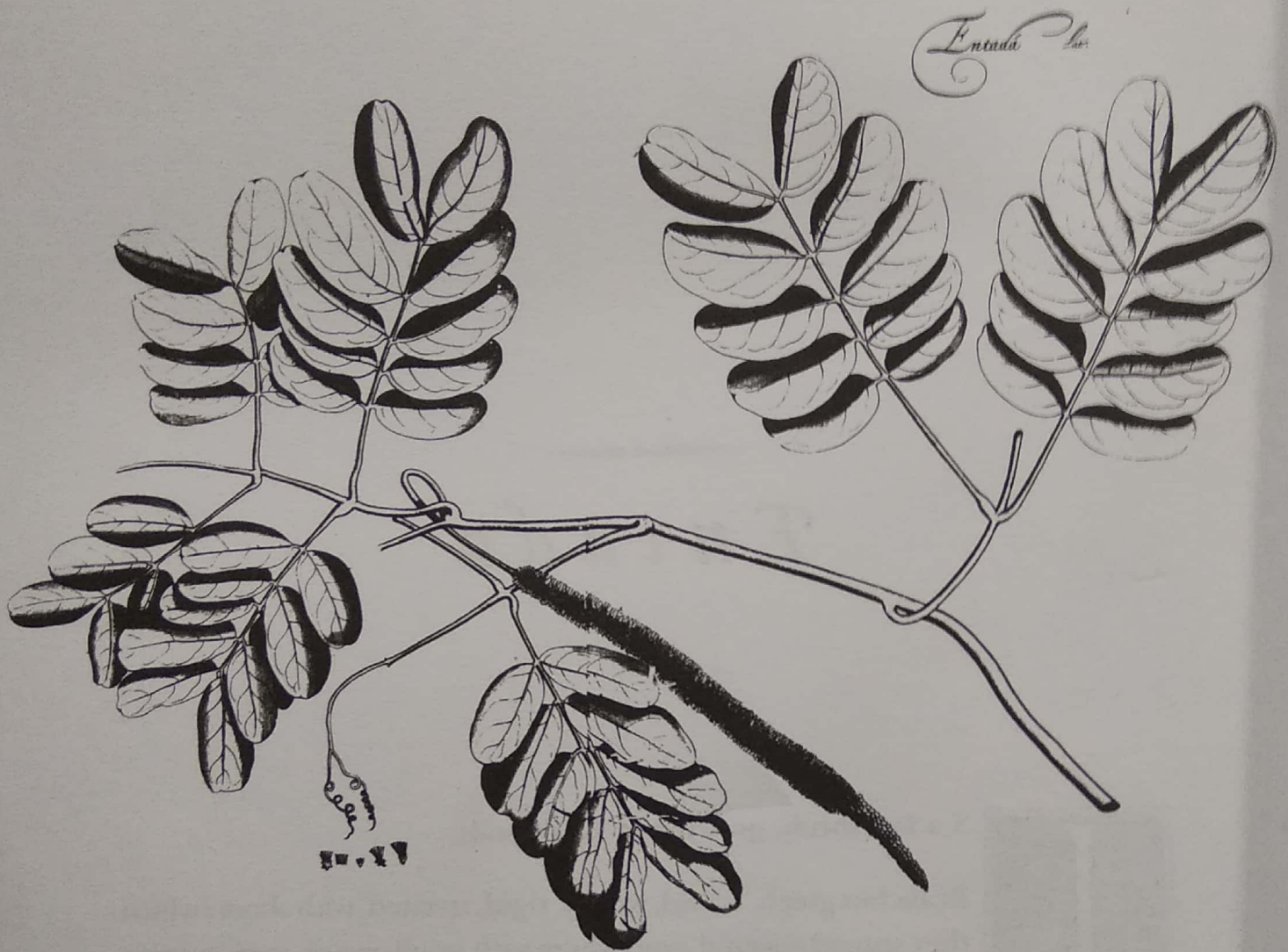


Fig. 77

Entada Rheede, Hort. Malab. 9: 151, t. 77. 1689.

The name Entada [no Malayalam script on t. 77] is not used. The meaning of the word is not clear. Today it is called Kakkuvalli; the meaning of Kakku is also not clear. (Valli means climber). It occurs along forest margins throughout Malabar.



Polatsjira

FIG. 78



Is a species of *Tsjira* and is an aquatic plant. The root is made up of many, white fibres, the feet of the stalks, with which it creeps on the ground, covering around at the nodes. Stalks

round, thick, gradually narrowing towards the tip, bright-green, shining, aqueous, spongy, striated with transparent and parallel veins, knotted, gradually tapering towards the apex, giving out new shoots from the feet, inside separated into fistular tubes by means of partition walls which from a middle, slender, plane, red, style go out and fix themselves to the outer bark.

Leaves in pairs cover around the stalks at the nodes, are oblong-narrow, serrate in an orderly fashion with sharp, pointed, small teeth, smooth, glabrous, green shining. The mid-rib stands out on the lower part.

Flowers arise many clustered together in the nodes above the origin of leaves, closely attached to the stalks, are small, five-petalled, white, aqueous, star shaped, surrounded (grilled) by five light green, cuspidate leaves. In them are ten white stamens, tipped with yellow buds, embracing a green, middle globule.

Seed-globules light red, striated with five sutures, clasped (received) at the bottom by five, green, cuspidate leaves. In them are numerous, small seeds, first white then from white to reddish.

Pola-tojira Lac.
 പൊട്ടുക്കുഴി Mal
Taruni
 തരൂനി Bram.
 بولہ توجیرہ Arab.

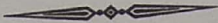


Fig. 78

Bergia capensis L., Mant. 2: 241. 1771; Backer in Fl. Males. I, 4: 203. 1951; Manilal & Sivar., Fl. Calicut 40. 1982. -*Bergia verticillata* Willd., Sp. Pl. 2: 770. 1799, nom. illeg. (incl. *Bergia capensis* L. 1771). *Bergia aquatica* Roxb., Corom. Pl. 2: 22, t. 142. 1800, nom. illeg. (incl. *Bergia capensis* L. 1771). *Elatine verticillata* Wight & Arn., Prodr. 40. 1834, nom. illeg. (incl. *Bergia capensis* L. 1771) [ELATINACEAE].

Pola-tsjiira Rheede, Hort. Malab. 9: 153, t. 78. 1689.

The name Polacheera [Malayalam script on t. 78] is not used now; pola (from polla) means empty (a reference to the hollow or spongy stem) and cheera is a general term for leafy vegetables. No Malayalam name is currently known being used for this plant.



Pee-tardavel

FIG. 79



LHIS plant likes sandy soil. Root white, fibrous, light yellow, inside woody. Stems somewhat tortuous and bent at curves, green and here and there with light red bark, the branches above are green, covered with small, short, rough spines, bulging out at the bendings, and striated with veins.

Leaves arise with their short petioles, plain on the inside, are around, hardly oblong, slender, soft, smooth. The mid-rib stands out also on the top.

Flowers are attached to the branches in globose heads in spikes, or also appear here and there on the sides, and are oblong, cuspidate spikes, are five-petalled, white, transparent, half-green, in the middle of the tips striated with dark-green veins. In there are five, oblong, white, erect, stamens, tipped with purple-red buds; the style is purple-red above, emerging from a white green bud (outgrowth). The flowers moreover, or the spikes, are surrounded by three cuspidate, light green leaflets which are drawn into oblong, curly filaments; without smell; after the seeds of the flowers have shaken out, the open spike closes, hiding inside itself an oblong bud or seed-bearing capsule

which is provided with an oblong filament at the top, in each spike, within the proper membranous capsule a single small seed is enclosed, with convex sides on both parts, which unite in the angular margin: of black and shining colour.

Pee-tarave Lat.

പെട്ടൻകുടവെളി mal.

جذوفاوفا and.

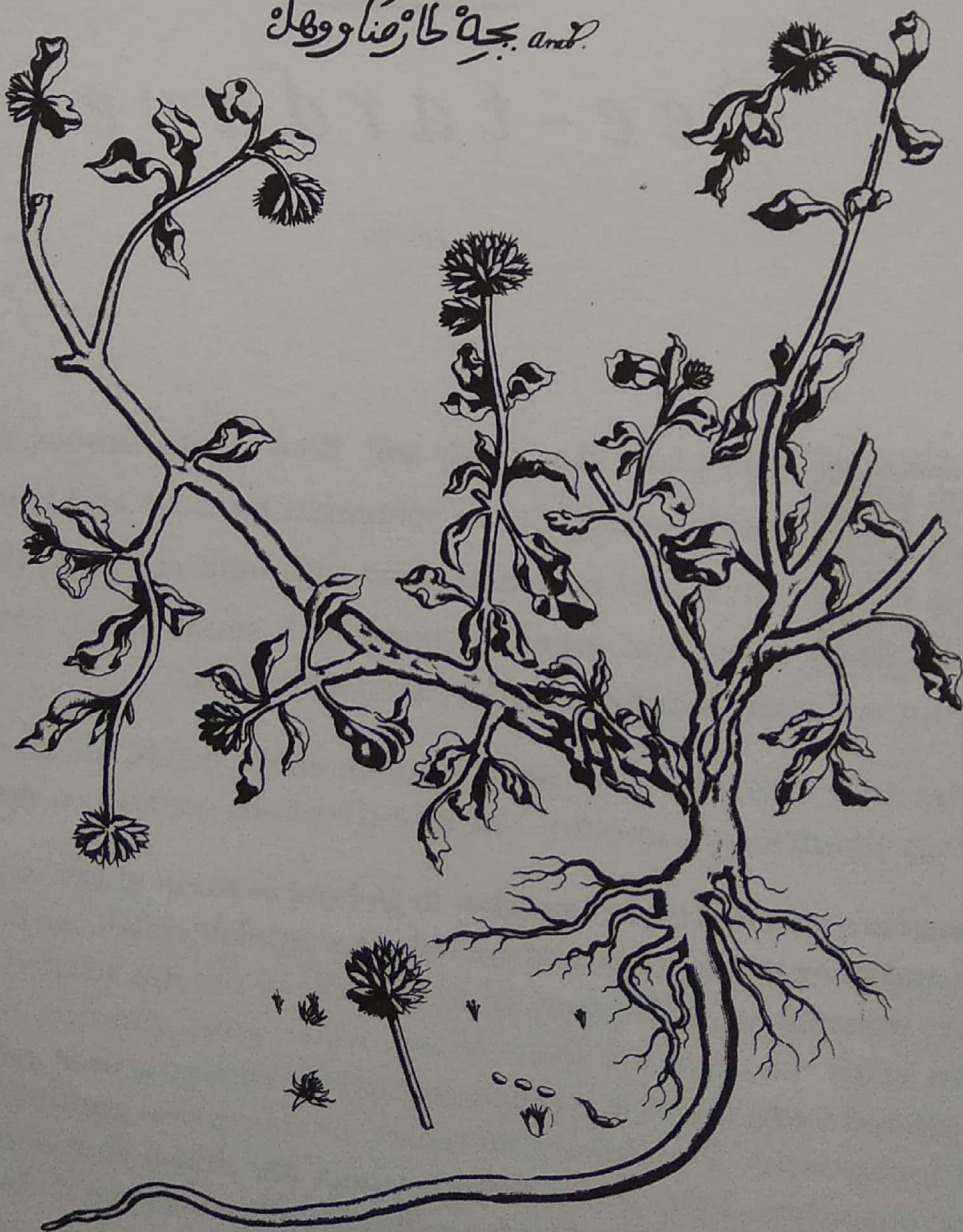


Fig. 79

(Its Uses)

This plant helps the possessed (spelled).

Allmania nodiflora (L.) R. Br. ex Wight, J. Bot. (Hooker) 1: 226, t. 128. 1834; Mabb., Taxon 26: 533. 1977; Townsend in Dassan., Rev. Handb. Fl. Ceylon 1: 7. 1980; Manilal, Fl. Silent Valley 225. 1988; Sasidh. & Sivar., Fl. Thrissur 368. 1996; Sivar. & Philip, Fl. Nilambur 558. 1997. -*Celosia nodiflora* L., Sp. Pl. 205. 1753 [AMARANTHACEAE].

Pee-tardavel Rheede, Hort. Malab. 9: 153, t. 79. 1689.

The name Peetharthaaval [Malayalam script on t. 79] is not used; pee means wild and tharthaval is for *Spermacoce hispida* (9: t. 76). The allusion, perhaps, is to the use of the plant in detecting the spell-stopped. No Malayalam name is currently available for this plant. It occurs throughout Malabar.



Kalu-tali

FIG. 80



ROWS in sandy soils. Root white, fibrous, stalks aqueous, round, red, rough with hirsute hairs.

Leaves oblong, anteriorly cuspidate, with one side projected downwards more broadly, and of more round outline, beset with hirsute hairs which induce roughness, of deep greenness and are similar to *Neriam-pulli*.

Flowers arise many clustered together on petioles above the origin of leaves and are attached to very short peduncles and are green in buds, cuspidate and angular, on one side contracted below into a wing, open ones are of two petals, unequal, red-purple, formed from an outgrowth from which the leaves arise. The calyx to which the outgrowth is attached is five foliate, cuspidate, green. Does not bear fruits.

(Its Uses)

A drink prepared from the shrub suppresses hot cephalgia (head ache).



Katu-tadyi lar.

കാട്ടുകുളി mal

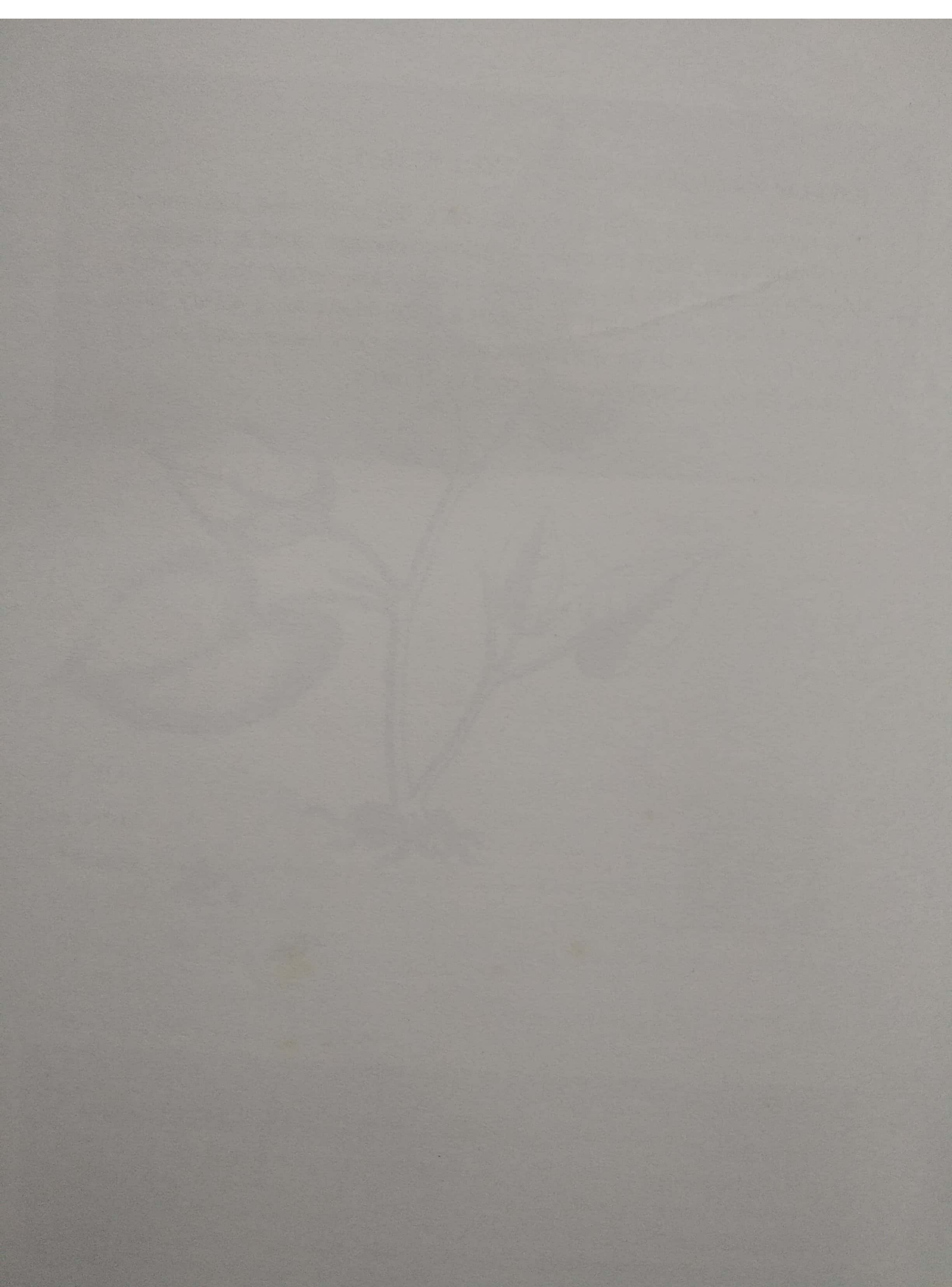
قحالة طقاي arab.

Fig. 80

Rhynchoglossum obliquum Bl., Bijdr. 741. 24 Jan 1826 ("Rhynchoglossum"); Burt, Notes Roy. Bot. Gard. Edinburgh 24: 170. 1962. - *Wulfenia obliqua* Wall., Tent. Fl. Nepal. 45, t. 35. Sep-Dec 1826. *Rhynchoglossum blumei* DC., Prodr. 9: 274. 1845 (incl. LT. of *R. obliquum* Bl. 1826). *Rhynchoglossum rheedei* DC., Prodr. 9: 274. 1845 ("rheedi"). *Rhynchoglossum obliquum* (Wall.) DC., Prodr. 9: 274. 1845, non *R. obliquum* Bl. 1826 [GESNERIACEAE].

Kalu-tali Rheede, Hort. Malab. 9: 157, t. 80.1689.

The name Kalluthali [Malayalam script on t. 80] is still used; kallu means stone and thaali refers to plants containing mucilage, used as shampoo. Rheede mentions that the plant grows in sandy soil. Perhaps the specimen shown to him was brought from such a place. However, it is very often found to grow on stone walls, especially during rainy seasons, and also on lateritic (stony) substratum, as denoted by its name.



Ene-pael

FIG. 81

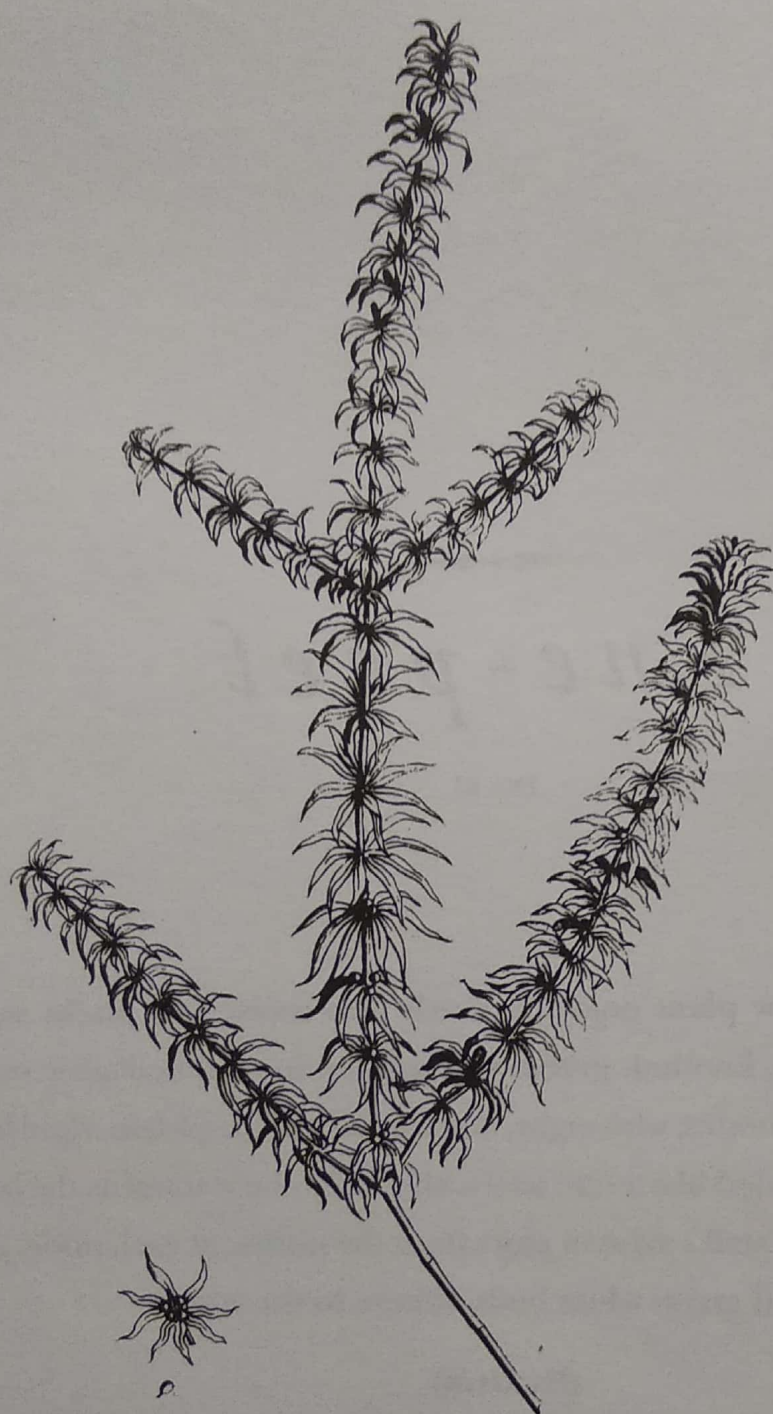


S a low plant enjoying sandy and moist soil. Stalks slender, round, knotted, green, surrounded in a verticillaster manner at the nodes, with eight, oblong-narrow, cuspidate, rigid leaves, expanded like a star, and with the tips bent towards the base of the stalks. Foliaceous stalks arise in pairs from the nodes; at each node, above the leaves, four round green white buds adhere to the stalks.

(Its Uses)

This plant mixed with fresh butter, brings abscesses to maturity.

Hydrilla verticillata (L.f.) Royle, III. Bot. Himal. 376. 1839; den Hartog in Fl. Males. I, 5: 385. 1957; Manilal & Sivar., Fl. Calicut 280. 1982; Sivar. & Philip, Fl. Nilambur 674. 1997. - *Serpicula verticillata* L.f., Suppl. Pl. 416. 1782 [HYDROCHARITACEAE].



Ene-pael *lav.*

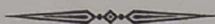
എന്നപ്പായില *mal.*

حلتا پچيالا *arb.*

Fig. 81

Ene-pael Rheede, Hort. Malab. 9: 159, t. 81. 1689.

The name Ennappayil [Malayalam script on t. 81] is still used; enna means oil and paayil refers to aquatic plants, floating on water. The allusion to enna (oil) is that the plant grows floating on water (as against submerged). It occurs in fresh water ponds of Malabar.



Nelam - mari

FIG. 82



THE plant is small, with the branches spread wide, liking sandy soil. Root white, fibrous, woody. The stems spread out into many green and then red shoots.

Leaves arise two by two on the shoots here and there on slender, green petioles, are anteriorily turned round (bent), oblong-round-narrow, hardly cuspidate, thick, dense, plain, smooth, of dark-greenness on the upper side, on the lower side of clear greenness, interspersed with dark-green spots, the mid-rib stands out high on the lower part, marking the upper side.

Flowers are seen in own petioles, which burst forth at random at the origin of the foliaceous petioles and are placed serially in them springing out from erect calices, are two petalled, plain, green, hardly oblong, globules three or four in a series, connected to a fringe by means of a dark green filament, each one containing one single, round, somewhat oblong seed, first green and shining then black.

(Its Uses)

From this plant an apozema (decoction) is prepared for cold fevers.

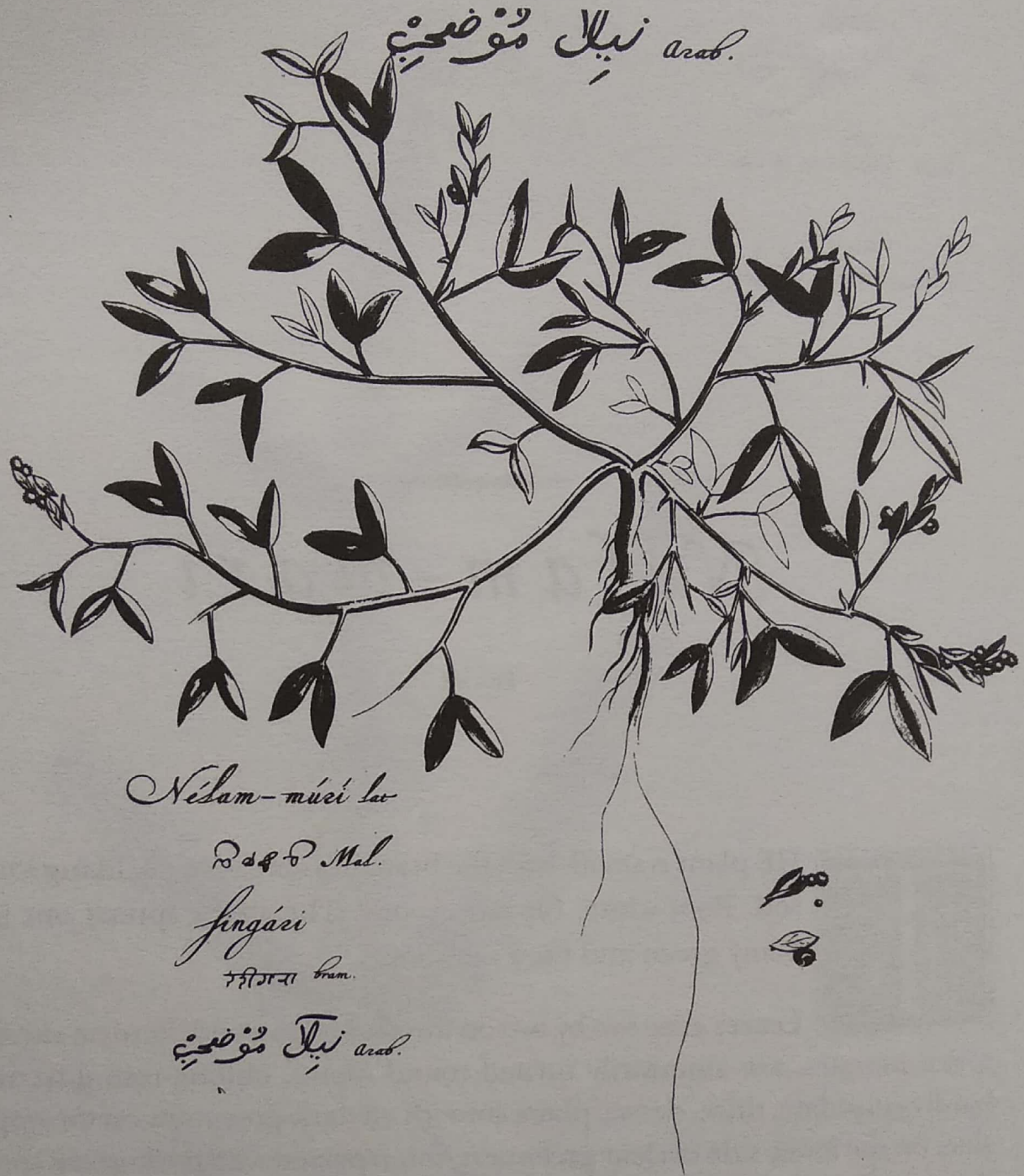
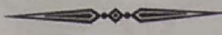


Fig. 82

Zornia gibbosa Span., Linnaea 15: 192. 1841; Mohlenbrock, Webbia 16: 112. 1961; Manilal & Sivar., Fl. Calicut 76. 1982; Sasidh. & Sivar., Fl. Thrissur 158. 1996; Sivar. & Philip, Fl. Nilambur 177. 1997 [FABACEAE].

Nelam-mari Rheede, Hort. Malab. 9: 161, t. 82. 1689.

The name Nilamari [Malayalam script on t. 82] is still used; nila (from nilam) means ground; and amari means growing prostrate [amarnnu is pressed down or flattened]. It occurs throughout Malabar.



Mallam-tsulli

FIG. 83



THE plant is low, liking sandy soil. Root white, fibrous. Branches woody, slender, green. Leaves arise in pairs, on green and almost a thumb across long petioles, which are surrounded by two very short, oblong narrow leaves at the origin, are oblong-round, narrow, slender, traced by nerves, of deep and dark greenness. Nothing is known about its powers.

Zornia diphylla (L.) Pers., Syn. 2: 318. 1807; Mohlenbrock, Webbia 15: 67. 1961. -*Hedysarum diphyllum* L., Sp. Pl. 747. 1753. *Hedysarum conjugatum* Willd., Sp. Pl. 3: 1178. 1802. *Zornia zeylonensis* Pers., Syn. 2: 318. 1807. *Zornia angustifolia* Sm. in Rees, Encycl. 39: no. 1. 1818 (incl. LT. of *Hedysarum diphyllum* L. 1753) [FABACEAE].

Mallam-tsjulli Lat.

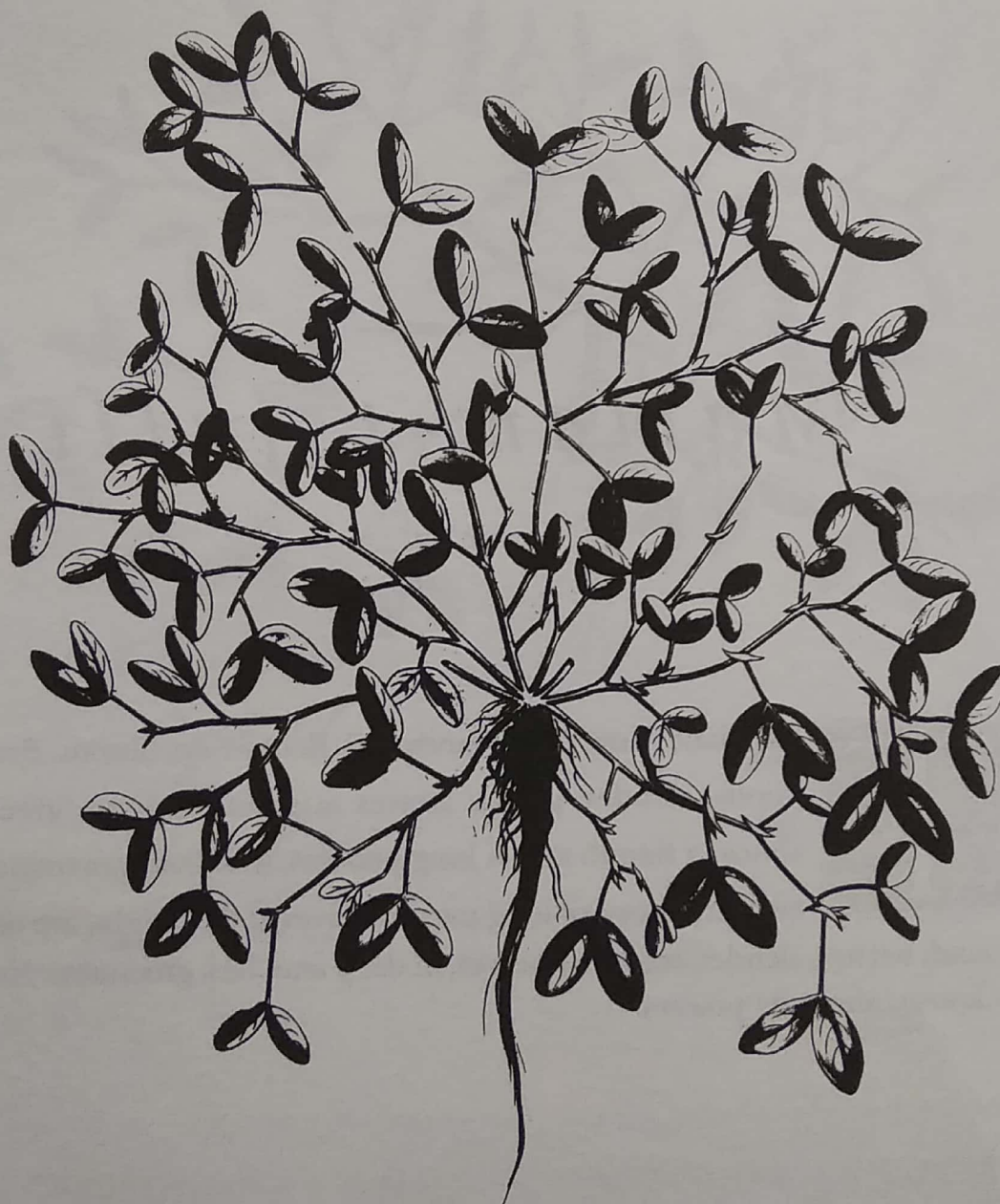
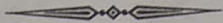


Fig. 83

Mallam-tsjulli Rheede, Hort. Malab. 9: 163, t. 83. 1689.

The name Malamchulli [using modern Malayalam transcription, no Malayalam script appearing on t. 83] is not used; mala means mountain and chulli refers to spiny shrubs. This species is also called Nilamari, as is *Zornia gibbosa*. It occurs throughout Malabar.



B e l i - t s j i r a

FIG. 84



ROWS in sandy and shady soils. Root fibrous, white. The stalks, which arise many from the root, spread out wide on the earth, are thick and knotted, giving out new stalks from the nodes, aqueous, light green, shining and partly turning red.

Leaves are attached in pairs to the nodes of the stalks, are oblong-round, narrow, obtusely cuspidate at the top, slender, smooth, soft, of dark greenness on the upper side, on the lower of lighter greenness, where the mid-rib stands out.

Flowers arise clustered together, seven, eight, nine, from above the origin of leaves, are green, cyathia shaped, quadrangular at the mouth, of four petals, in each corner of the margin projecting out with a green tip. Bear no fruits.

(Its Uses)

An alexicac against poison/or alexiac (?) (word blindness) bath is prepared from this plant against the poison of all sorts of serpents. The leaves with the juice of the bark of *Lanjae* (tender coconut) and smeared, heals boils and phlegm.

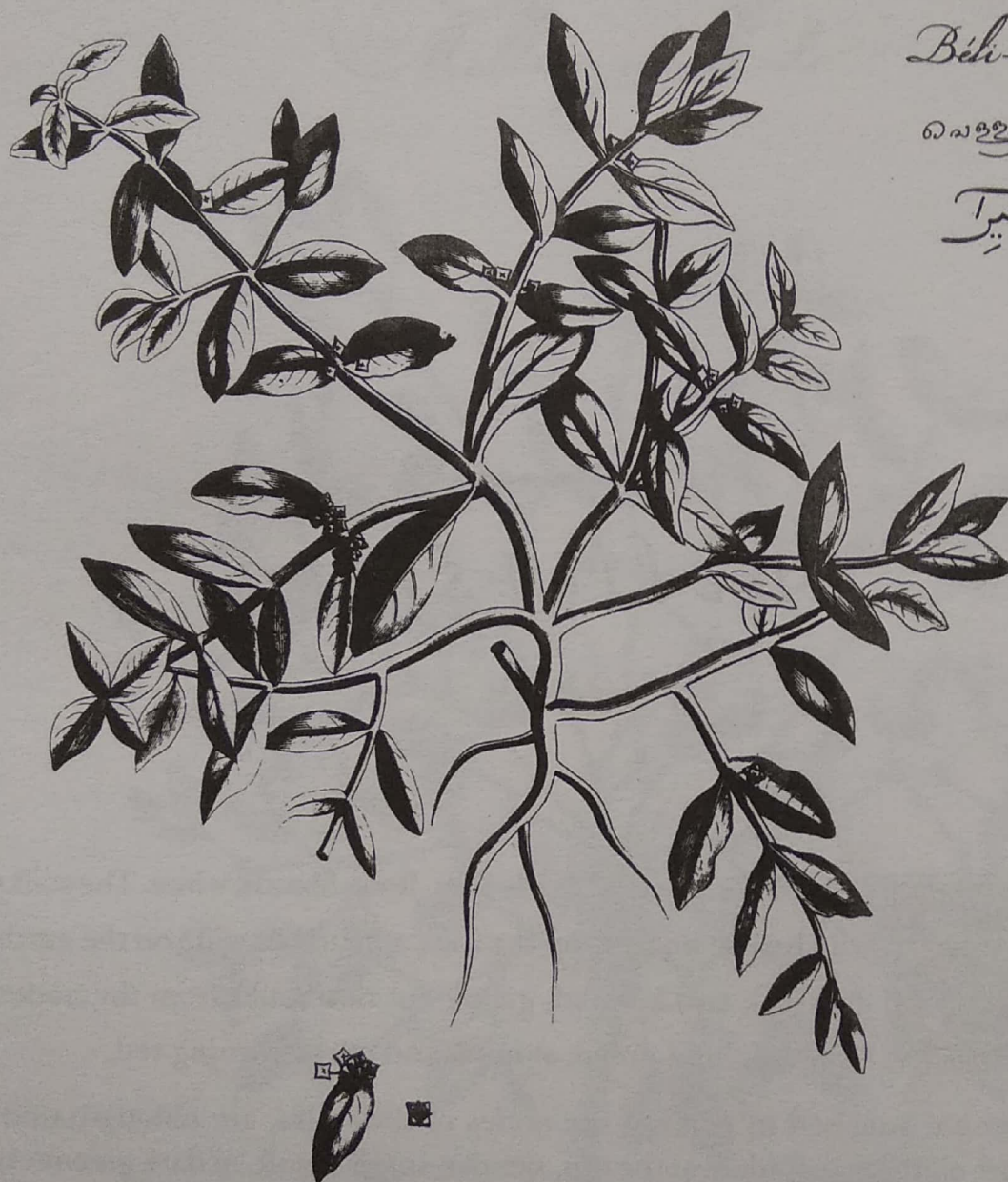


Fig. 84

Nesaea lanceolata (Heyne ex Clarke) Koehne in Engl., Bot. Jahrb. Syst. 3: 325. 1882. - *Ammannia lanceolata* Heyne ex Clarke in J. Hook., Fl. Brit. Ind. 2: 570. 1879. *Nesaea prostrata* Suresh in Nicolson *et al*, Interp. Rheede's Hort. Malab. 168. 1988. [LYTHRACEAE].

Beli-tsira Rheede, Hort. Malab. 9: 165, t. 84. 1689.

The name Vellicheera [Malayalam script on t. 84] is not used; velli means silver (reference to pale lower leaf surfaces) and cheera refers to leafy vegetables. No Malayalam name is currently available for this plant. It occurs along the coast of Malabar.



Tsjeria-manga-nari

FIG. 85



LIKES sandy soils. Root white, fibrous. Stalks triangular, green, inside aqueous.

Leaves, which are attached to the stalks are oblong, cuspidate, serrate in the margin with acute corners, slender, smooth, on the lower side covered with pronounced ribs; of no taste.

Flowers, which come out at the tips of stalks on oblong petioles above the origin of leaves are blue, monopetalous, tripartite. The style, in like manner is blue, with a rigid head. Calyx is loose, five foliate.

(Its Uses)

An ointment made from this plant and the oil of the Indian nut helps in elephantiasis. The juice given with *Ginger* and *cumin* or also with the oil of *Sergelim* and aromatic reed smeared on the body helps in pestilential fever.

Tojeria-manga-nári Sw.

പെരിയടങ്ങുനാരി Mal.

amusi

അമുസി Tam.

جهرية مانغاناري Arab.



Fig. 85

Limnophila indica (L.) Druce, Rep. Bot. Exch. Club Brit. Isles 1913 3: 420. 1914; Philcox, Kew Bull. 24: 115. 1970; Cramer in Dassan., Rev. Handb. Fl. Ceylon 3: 432. 1981; Manilal & Sivar., Fl. Calicut 203. 1982; Sasidh. & Sivar., Fl. Thrissur 320. 1996; Sivar. & Philip, Fl. Nilambur 468. 1997. - *Hottonia indica* L., Syst. Nat. ed. 10, 919. 1759; Sp. Pl. ed. 2, 208. 1762. *Gratiola chamaedrifolia* Lam., Encycl. 3: 27. 1789. *Gratiola trifida* Willd., Sp. Pl. 1: 104. 1797, nom. illeg. (incl. type of *Gratiola chamaedrifolia* Lam. 1789). *Limnophila gratioloides* R. Br., Prodr. 442. 1810, nom. illeg. (incl. type of *Hottonia indica* L. 1759). *Columnnea balsamica* Roxb., Fl. Ind. 3: 97. 1832, nom. illeg. (incl. type of *Hottonia indica* L. 1759). *Hydropityon pedunculatum* Ser. in DC., Prodr. 1: 422. 1824, nom. illeg. (incl. *Hottonia indica* L. 1759). *Limnophila chamaedrifolia* (Lam.) G. Don, Gen. Syst. 4: 543. 1837 [SCROPHULARIACEAE].

Tsjeria-manga-nari Rheede, Hort. Malab. 9: 165, t. 85. 1689.

The name Cheriya manganari [Malayalam script on t. 85] is not used; cheriya means little, manga means mango and nari means to smell. Manganari is used for *Limnophila aromatica*, because of its mango odor. Cheriya manganari means "small *Limnophila aromatica*". No Malayalam name is currently available for *L. indica*. It is very common in abandoned paddy fields of Malabar.

Tsjeria-narinampuli

FIG. 86



ROWS in sandy and rocky soils. Root aqueous, fleshy, white-reddish, covered with dense fibres, of aqueous and light bitter. Stalks round, weak, fleshy, aqueous, darkly reddish, bulging out at the nodes, older ones date-red, sparsely covered with long, loose hairs, slightly rough, of acid taste.

Leaves arise on thick reddish peduncles, which are girded below at the origin, are oblong, drawing into a tip, with one side more broad, and jutting out longer downwards to the petiole, from which petiole they run out in an annular tract; and are crenate in the margins, soft, in the upper and lower part, in which ribs stand out, which also striate the upper and lower part, beset with hirsute, long, white hairs, somewhat rough, of florid and shining colour.

Flowers arise on dark-red petioles which come out above the origin of leaves, are seen in twos or threes in each petiole, are three petalled, white, sparkling, covered sparsely with long hairs, bursting forth from the mouth of the calyx, which is oblong, and triangular, with the corners expanded wing-like, striated with a red vein in the interspaces of the wings so also in the sides of the

wings. A trifid *Penicillus* (brush/pencil) comes out from the mouth of the flower, each portion of which is again bifid, and provided with a green globule. Flower buds are round, a bit oblong, level, hairy on the outside. Besides these, has also flowers with four petals, without calyx, in the middle of which



Fig. 86

is the style, surrounded in a brush-like manner by small stamens which are provided with yellow heads.

Berries are found very copiously in each side of the wings of the calyx, around their middle corners, where the wings turn white, covered with the membrane of the calyx and in them very copious, sand like seeds, first white then red.

(Its Uses)

The natives use this plant, except the root, in the preparation of *Caril*. Leaves boiled in oil furnish a vulnerary (useful in healing wounds) ointment; from the same warmed with the addition of salt, a nodule is made, useful for purulent and rotten teeth.

Begonia malabarica Lam., Encycl. 1: 393. 1785; Jayasuriya in Dassan., Rev. Handb. Fl. Ceylon 4: 146. 1983; L. B. Smith et al., Smiths. Contrib. Bot. 60: 196. 1986; Manilal, Fl. Silent Valley 124. 1988; Sasidh. & Sivar., Fl. Thrissur 207. 1996; Sivar. & Philip, Fl. Nilambur 304. 1997. - *Begonia malabarica* var. *rheedei* A. DC., Prodr. 15(1): 392. 1864 ("*rheedi*") [BEGONIACEAE].

Tsjeria-narinampuli Rheede, Hort. Malab. 9: 167-168, t. 86. 1689.

The name Cheriya njeringampuli [Malayalam script on t. 86] is not used; cheriya means little, njeringu refers to the sound of cracking fingers, and puli refers to acidic taste. No Malayalam name is currently known for this plant. It occurs along forest margins throughout Kerala.



Bahel-tsjulli

FIG. 87



LS a small plant growing in furrows of fields, with the height of more or less three or four feet. Root oblong, white, covered with fibres. Stalks with the thickness of a finger, shoots are quadrangular and knotted, in the inter-nodes plain or furrowed in an alternate order, with glabrous and green bark.

Flowers arise in pairs at the nodes above the plain sides of the inter-nodes, in a decussate order attached to the shoots, are oblong-narrow, crenate in the margins with tips, thick and soft. The mid-rib stands out highly on the lower part, the lateral ones which are taken to the margins, somewhat disappears. Flowers many clustered together arise at the tips of shoots, a pair at each node, from above the plain sides, in a decussate order, hanging from short, thick, erect, light green petiole, which is girded by a small, cuspidate, green leaf, are four petalled, round, bent towards the outside with a neck hairy with short hairs or downy; of dark red colour, one of the petals is more oblong, and on the inside of light red colour, on the outside with a neck turning white, another one (leaf) opposite to this is shorter and broader, of the same colour, but more deep, on the outside of blood-red colour, so

also in the neck, that one to the side of the more oblong leaf, on the inside is striated with purple-red veins.

In the neck are seen four white stamens; two of these are arched and like

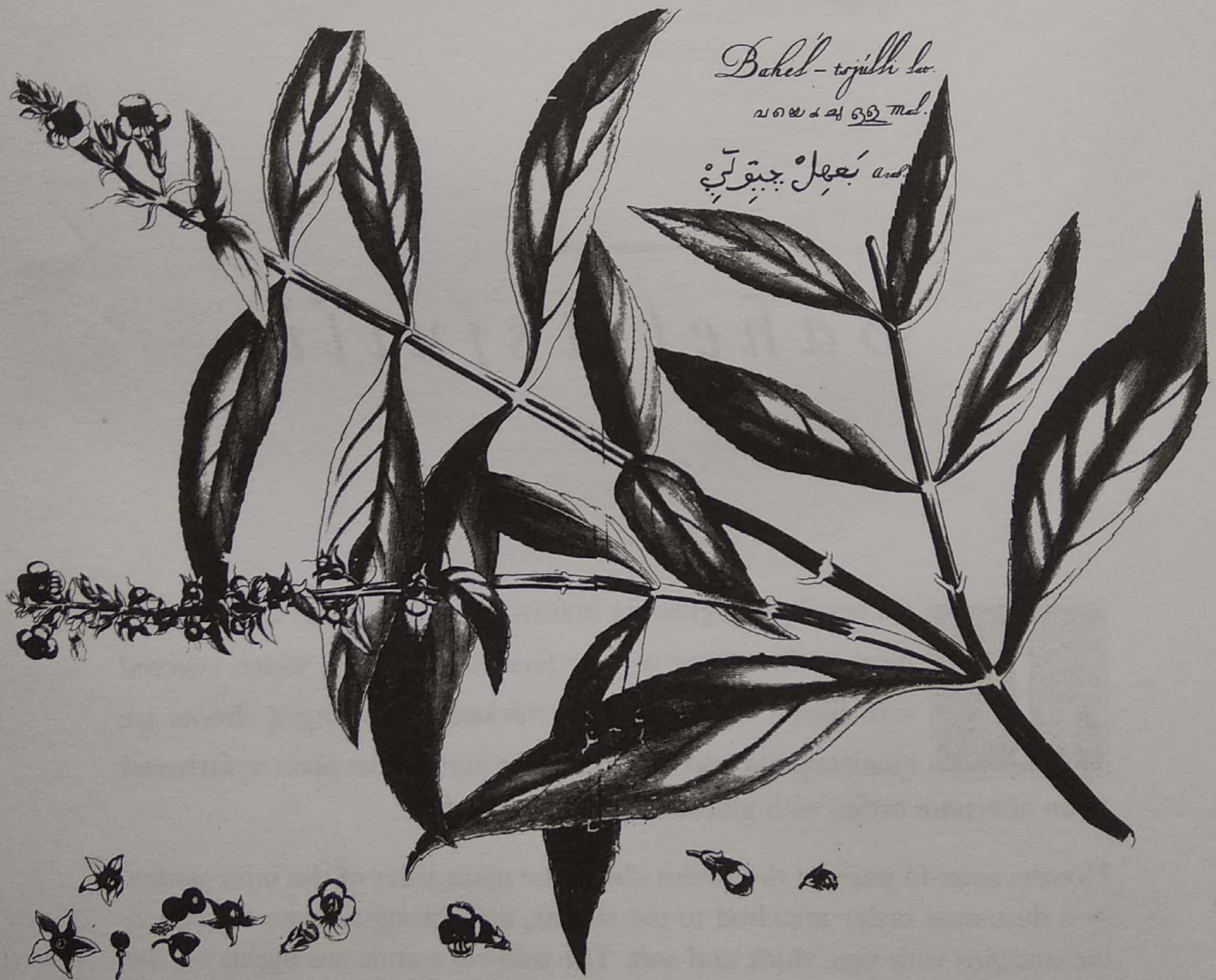


Fig. 87

blue rose, in the middle narrow and contracted, which lies near the broader leaf, with two curved like arms, the tips of which are drawn to a broad and quite purple head, mutually turned to each other, served on to the neck, a bit in between the nodes of the arm, the two remaining ones spring out from the mid-neck from the side of the broader leaf and a bit below, lying near the

broader leaf, are erect, arched, bent mutually towards each other, drawn together, by the insertion of which into the spaces of the broader leaf, a white tract is marked in the neck. A white style comes out from the neck of the flowers, bifid at the top, closely lying near the broader leaf, embracing the rose with arched stamens. The calyx is five foliate, cuspidate, oblong, thick. In the buds, above the oblong leaf, lie rolled up the leaves which are near to it at the sides and above them the broader leaf and are to their greater part purple dark, whitish to the part of the oblong leaf.

The seed buds are large, round, green, tightly attached to the broadly expanded calyx, provided with a red filament at the top, or when it has fallen away, with a small, hard, acute tip, striated through the top by a thin, furrowed suture, which when loosened they open themselves into two parts, the rind becomes rigid and cartilaginous, in them are placed numerous, very minute, somewhat oblong seeds, are round, middle globule, which is green and humid inside, covering the surface, first very white, nay glittering then red; that middle globule is guided by an annular, green-white and transparent wall, coming out from the style and connecting itself to the middle suture of the bud; the ring is always open, very near to the top of the globule by an intermediary opening (cleft). Moreover it is to be noted that these seed-bearing buds, flowers, which are lower in the shoots, may follow while still new flowers are produced from the tip of the shoots.

(Its Uses)

The leaves crushed and used in the form of plasma ripens abscesses. From the root a cephalic "lixivium" is prepared for washing away the dirt on head.

Artanema longifolium (L.) Vatke, Linnaea 43: 207. 1881; Merr., Philipp. J. Sci. 19: 380. 1921; Cramer in Dassan., Rev. Handb. Fl. Ceylon 3: 404. 1981; Sasidh. & Sivar., Fl. Thrissur 318. 1996; Sivar. & Philip, Fl. Nilambur 467. 1997. - *Columnnea longifolia* L., Mant. 90. 1767. *Sesamum javanicum* N. Burm., Fl. Ind. 133. 1768, nom. illeg. (incl. type of *Columnnea longifolia* L. 1767). *Achimenes sesamoides* Vahl, Symb. Bot. 2: 71. 1791, nom. illeg. (incl. type of *Columnnea longifolia* L. 1767). *Artanema sesamoides* Benth., Scroph. Ind. 39. 1835, nom. illeg. (incl. type of *Columnnea longifolia* L. 1767) [SCROPHULARIACEAE].

Bahel-tsjulli Rheede, Hort. Malab. 9: 169-170, t. 87. 1689.

The name Vayalchulli [Malayalam script on t. 87] is not used for this now, but is used for *Hygrophila longifolia*; vayal means paddy field and chulli refers to spiny herbs (like *Hygrophila longifolia*). The reference is to its common habitat of furrows of paddy fields. No Malayalam name is currently known for this species. It occurs on forest margins throughout Malabar.

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9: 161, t. 82.1689	Nelam-mari	<i>Zornia gibbosa</i> Span.	FABACEAE
9: 163, t. 83.1689	Mallam-tsjulli	<i>Zornia diphylla</i> (L.) Pers.	FABACEAE
9: 165, t. 84.1689	Beli-tsjira	<i>Nesaea prostrata</i> (Dillwyn) Suresh	LYTHRACEAE
9: 165, t. 85.1689	Tsjeria-manga-nari	<i>Limnophila indica</i> (L.) Druce	SCROPHULARIACEAE
9: 167-168, t. 86.1689	Tsjeria-narinampuli	<i>Begonia malabarica</i> Lam.	BEGONIACEAE
9: 169-170, t. 87.1689	Bahel-tsjulli	<i>Artanema longifolium</i> (L.) Vatke	SCROPHULARIACEAE

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

Volume / Fig. / Year	Malayalam Name	Konkani Name	Portuguese Name	Dutch/Belg. Name
9: 1-2, t. 1.1689	Tsjovanna-areli	*	*	*
9: 3, t. 2. 1689	Belluta-areli	*	*	*
9: 5, t. 3-4.1689	Nelem-pala	Utago Culo	*	*
9: 7-8, t. 5-6.1689	Belutta-kaka-kodi	*	*	*
9: 9-10, t. 7.1689	Ada-kodien	*	*	*
9: 11-12, t. 8.1689	Kaka-kodi	Kiti	*	*
9: 13, t. 9. 1689	Kudici-kodi	Duda-Valli	*	*
9: 15, t. 10. 1689	Wallia-pal-valli	*	*	*
9: 17-18, t. 11.1689	Katu-pal-valli	*	*	*
9: 19, t.12. 1689	Pal-valli	*	*	*
9: 21-22, t.13. 1689	Nansjera-patsja	Dadu-Valli	*	*
9: 23-24, t. 14. 1689	Kametti-valli	Ulu-Valli	*	*
9: 25-26, t. 15. 1689	Watta-kaka-kodi	*	*	*
9: 27-28, t. 16.1689	Njota-njodien-valli	Zira-Puti-Valli	*	*
9: 29, t.17. 1689	Parparam	*	*	*
9: 31-32, t.18. 1689	Neli-tali	Nalabi	*	*
9: 33-34, t. 19. 1689	Todda-vaddi	Lacheri	*	*
9: 35-36, t. 20. 1689	Niti-todda-vaddi	Lauri	*	*
9: 37, t. 21.1689	Malam-todda-vadi	*	*	*
9: 39, t. 22. 1689	Man-todda-vaddi	*	*	*
9: 41, t. 23. 1689	Aria-veela	Tiloni	*	*
9: 43, t. 24.1689	Cara-veela	Veela	*	*
9: 45-46, t. 25.1689	Tandale-cotti	Schama-Puspi	*	*
9: 47, t. 26.1689	Tandale-cotti	Dacoli-Gageri	*	*
9: 49, t. 27.1689	Nella-tandale-cotti	Gageri	*	*
9: 51, t. 28. 1689	Wellia-tandale-cotti	Gagaro	*	*
9: 53, t. 29.1689	Pee-tandale-cotti	Butta-Gageri	*	*
9: 55, t. 30.1689	Kattu-tagera	*	*	*
9: 57, t. 31.1689	Kondam-pullu	*	*	*

9: 59, t. 32.1689	Nir-murri	*	*	*
9: 61, t. 33. 1689	Cupa-vela	Rani-quela	*	*
9: 63, t. 34. 1689	Tsjeru-vela	*	*	*
9: 65, t. 35. 1689	Vallia-capo-molago	*	*	*
9: 67, t. 36.1689	Nir-pullari	*	*	*
9: 69, t. 37.1689	Manneli	*	*	*
9: 71, t. 38.1689	Tsjovanna-manneli	*	*	*
9: 73, t. 39.1689	Tsjeru-manelli	*	*	*
9: 75, t. 40.1689	Suendadi-pullu	*	*	*
9: 77-78, t. 41. 1689	Coletta-veetla	Gontua	*	*
9: 79-80, t. 42.1689	Vada-kodi	Kalo Adulusso	*	*
9: 81, t. 43.1689	Adel-odagam	Adulasso	*	*
9: 83, t. 44.1689	Katu-karivi	Rana Dadumari	*	*
9: 85, t. 45.1689	Valli-upu-dali	*	*	*
9: 87, t. 46.1689	Pee-tumba	Butumbo	*	*
9: 89-90, t. 47. 1689	Onapu	Tambido	*	*
9: 91, t. 48. 1689	Valli-onapu	Tilo	*	*
9: 93, t. 49.1689	Tsjeria-onapu	Tilo	*	*
9: 95, t. 50.1689	Man-onapu	*	*	*
9: 99, t. 51. 1689	Bellutta-onapu	*	*	*
9: 101, t. 52.1689	Notenga	*	*	*
9: 101, t. 52.1689	Tilo-onapu	*	*	*
9: 103, t. 53.1689	Kaka-pu	Cacla-Dolo	*	*
9: 105-106, t. 54.1689	Schit-elul	Davo-Tiloe	*	*
9: 107, t. 55.1689	Car-elul	Caro Tilu	*	*
9: 109-110, t. 56.1689	Cara-caniram	Boin-Caro	*	*
9: 111, t. 57.1689	Tsjanga-puspam	*	*	*
9: 113, t. 58. 1689	Katu-pee-tsjanga-puspam	*	*	*
9: 115, t. 59.1689	Pee-tsjanga-puspam	*	*	*
9: 117, t. 60.1689	Nelam-parenda	*	*	*
9: 119, t. 61. 1689	Katu-vistna-clandi	*	*	*
9: 121, t. 62.1689	Manja-kurini	Abuli	*	*
9: 123, t. 63.1689	Tali-pullu	*	*	*
9: 125, t. 64.1689	Upu-dali	*	*	*
9: 127, t. 65.1689	Soneri-ila	*	*	*
9: 129, t. 66. 1689	Kalu-polapen	*	*	*
9: 131, t. 67.1689	Kodatsjeri	*	*	*

9: 133, t. 68.1689	Corosinam	*	*	*
9: 135, t. 69.1689	Pul-colli	Dadumari	*	*
9: 137, t. 70.1689	Nelipu	*	*	*
9: 139, t. 71.1689	Kotsjiletti-pullu	*	*	*
9: 141, t. 72.1689	Minangani	Matsjadada	*	*
9: 143, t. 73.1689	Tsjeru-uren	*	*	*
9: 145-146, t. 74. 1689	Iribeli	Carabalo	*	*
9: 147, t. 75.1689	Perim-munja	*	*	*
9: 149, t. 76. 1689	Tardavel	*	*	*
9: 151, t. 77.1689	Entada	*	*	*
9: 153, t. 78.1689	Pola-tsjira	*	*	*
9: 153, t. 79.1689	Pee-tardavel	*	*	*
9: 157, t. 80.1689	Kalu-tali	*	*	*
9: 159, t. 81.1689	Ene-pael	*	*	*
9: 161, t. 82.1689	Nelam-mari	*	*	*
9: 163, t. 83.1689	Mallam-tsjulli	*	*	*
9: 165, t. 84.1689	Beli-tsjira	*	*	*
9: 165, t. 85.1689	Tsjeria-manga-nari	*	*	*
9: 167-168, t. 86.1689	Tsjieria-narinampuli	*	*	*
9: 169-170, t. 87.1689	Bahel-tsjulli	*	*	*

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

Scientific Name	Family	Malayalam Name	Volume / Fig. / Year
<i>Acalypha fruticosa</i> Forssk.	EUPHORBIACEAE	Perim-munja	9: 147, t. 75.1689
<i>Acrocephalus hispidus</i> (L.) Nicols. & Sivadasan	LAMIACEAE	Minangani	9: 141, t. 72.1689
<i>Adhatoda zeylanica</i> Medicus	ACANTHACEAE	Adel-odagam	9: 81, t. 43.1689
<i>Aeschynomene indica</i> L.	FABACEAE	Neli-tali	9: 31-32, t.18. 1689
<i>Allmania nodiflora</i> (L.) R. Br. ex Wight	AMARANTHACEAE	Pee-tardavel	9: 153, t. 79.1689
<i>Alysicarpus bupleurifolius</i> (L.) DC.	FABACEAE	Nir-murri	9: 59, t. 32.1689
<i>Andrographis atropurpurea</i> (Dennst.) Alston ex Mabb.	ACANTHACEAE	Katu-karivi	9: 83, t. 44.1689
<i>Andrographis paniculata</i> (N. Burm.) Wall. ex Nees	ACANTHACEAE	Cara-caniram	9: 109-110, t. 56.1689
<i>Anodendron paniculatum</i> A. DC.	APOCYNACEAE	Kaka-kodi	9: 11-12, t. 8.1689
<i>Artanema longifolium</i> (L.) Vatke	SCROPHULARIACEAE	Bahel-tsjulli	9: 169-170, t. 87.1689
<i>Asystasia gangetica</i> (L.) Anders.	ACANTHACEAE	Valli-upu-dali	9: 85, t. 45.1689
<i>Barleria prionitis</i> L.	ACANTHACEAE	Coletta-veetla	9: 77-78, t. 41. 1689
<i>Begonia malabarica</i> Lam.	BEGONIACEAE	Tsjieria-narinampuli	9: 167-168, t. 86.1689
<i>Bergia capensis</i> L.	ELATINACEAE	Pola-tsjira	9: 153, t. 78.1689
<i>Biophytum candolleianum</i> Wight	OXALIDACEAE	Todda-vaddi	9: 33-34, t. 19. 1689
<i>Capsicum frutescens</i> L.	SOLANACEAE	Vallia-capo-molago	9: 65, t. 35. 1689
<i>Cassia kleinii</i> Wight & Arn.	FABACEAE	Malam-todda-vadi	9: 37, t. 21.1689
<i>Catharanthus pusillus</i> (Murr.) G. Don	APOCYNACEAE	Cupa-vela	9: 61, t. 33. 1689
<i>Centranthera indica</i> (L.) Gamble	SCROPHULARIACEAE	Corosinam	9: 133, t. 68.1689
<i>Ceropegia candelabrum</i> L.	ASCLEPIADACEAE	Njota-njodien-valli	9: 27-28, t. 16.1689
<i>Chonemorpha fragrans</i> (Moon) Alston	APOCYNACEAE	Belutta-kaka-kodi	9: 7-8, t. 5-6.1689
<i>Cleome monophylla</i> L.	CAPPARACEAE	Tsjeru-vela	9: 63, t. 34. 1689
<i>Cleome viscosa</i> L.	CAPPARACEAE	Aria-veela	9: 41, t. 23. 1689
<i>Coleus amboinicus</i> Lour.	LAMIACEAE	Iribeli	9: 145-146, t. 74. 1689
<i>Crossandra infundibuliformis</i> (L.) Nees	ACANTHACEAE	Manja-kurini	9: 121, t. 62.1689
<i>Crotalaria juncea</i> L.	FABACEAE	Tandale-cotti	9: 47, t. 26.1689
<i>Crotalaria laburnifolia</i> L.	FABACEAE	Nella-tandale-cotti	9: 49, t. 27.1689
<i>Crotalaria quinquefolia</i> L.	FABACEAE	Wellia-tandale-cotti	9: 51, t. 28. 1689
<i>Crotalaria retusa</i> L.	FABACEAE	Tandale-cotti	9: 45-46, t. 25.1689

<i>Crotalaria verrucosa</i> L.	FABACEAE	Pee-tandale-cotti	9: 53, t. 29.1689
<i>Cryptolepis buchananii</i> R. Br. ex Roem. & Schult.	ASCLEPIADACEAE	Katu-pal-valli	9: 17-18, t. 11.1689
<i>Dentella repens</i> (L.) J. R. & G. Forster	RUBIACEAE	Tsjeru-manelli	9: 73, t. 39.1689
<i>Dipteracanthus patulus</i> (Jacq.) Nees	ACANTHACEAE	Upu-dali	9: 125, t. 64.1689
<i>Entada rheedei</i> Spreng.	FABACEAE	Entada	9: 151, t. 77.1689
<i>Gynandropsis gynandra</i> (L.) Briq.	CAPPARACEAE	Cara-veela	9: 43, t. 24.1689
<i>Holostemma ada-kodien</i> R.Br. ex Schult.	ASCLEPIADACEAE	Ada-kodien	9: 9-10, t. 7.1689
<i>Hybanthus enneaspermus</i> (L.) F. v. Muell.	VIOLACEAE	Nelam-parenda	9: 117, t. 60.1689
<i>Hydrilla verticillata</i> (L.f.) Royle	HYDROCHARITACEAE	Ene-pael	9: 159, t. 81.1689
<i>Ichnocarpus frutescens</i> (L.) W. T. Aiton	APOCYNACEAE	Pal-valli	9: 19, t.12. 1689
<i>Impatiens balsamina</i> L.	BALSAMINACEAE	Notenga	9: 101, t. 52.1689
<i>Impatiens balsamina</i> L.	BALSAMINACEAE	Tilo-onapu	9: 101, t. 52.1689
<i>Impatiens chinensis</i> L.	BALSAMINACEAE	Onapu	9: 89-90, t. 47. 1689
<i>Impatiens latifolia</i> L.	BALSAMINACEAE	Valli-onapu	9: 91, t. 48. 1689
<i>Impatiens minor</i> (DC.) Suresh	BALSAMINACEAE	Bellutta-onapu	9: 99, t. 51. 1689
<i>Impatiens minor</i> (DC.) Suresh	BALSAMINACEAE	Man-onapu	9: 95, t. 50.1689
<i>Impatiens tilo</i> (DC.) Suresh	BALSAMINACEAE	Tsjeria-onapu	9: 93, t. 49.1689
<i>Indigofera aspalathoides</i> Vahl ex DC.	FABACEAE	Manneli	9: 69, t. 37.1689
<i>Indigofera hirsuta</i> L.	FABACEAE	Kattu-tagera	9: 55, t. 30.1689
<i>Indigofera uniflora</i> Ham. ex Roxb.	FABACEAE	Tsjovanna-manneli	9: 71, t. 38.1689
<i>Indoneesiella echioides</i> (L.) Sreem.	ACANTHACEAE	Pee-tumba	9: 87, t. 46.1689
<i>Justicia gendarussa</i> N. Burm.	ACANTHACEAE	Vada-kodi	9: 79-80, t. 42.1689
<i>Kametia caryophyllata</i> (Roxb.) Nicol. & Suresh	APOCYNACEAE	Kametti-valli	9: 23-24, t. 14. 1689
<i>Limnophila indica</i> (L.) Druce	SCROPHULARIACEAE	Tsjeria-manga-nari	9: 165, t. 85.1689
<i>Lindernia ciliata</i> (Calesm.) Pennell	SCROPHULARIACEAE	Pee-tsjanga-puspan	9: 115, t. 59.1689
<i>Lindernia crustacea</i> (L.) F. v. Muell.	SCROPHULARIACEAE	Katu-pee-tsjanga-puspan	9: 113, t. 58. 1689
<i>Lindernia oppositifolia</i> (Retz.) Mukh.	SCROPHULARIACEAE	Kondam-pullu	9: 57, t. 31.1689
<i>Lindernia rotundifolia</i> (L.) Alston	SCROPHULARIACEAE	Tsjanga-puspan	9: 111, t. 57.1689
<i>Melilotus indica</i> (L.) All.	FABACEAE	Suendadi-pullu	9: 75, t. 40.1689
<i>Melochia corchorifolia</i> L.	STERCULIACEAE	Tsjeru-uren	9: 143, t. 73.1689
<i>Murdannia nudiflora</i> (L.) Brenan	COMMELINACEAE	Tali-pullu	9: 123, t. 63.1689
<i>Neptunia prostrata</i> (Lam.) Baill.	FABACEAE	Niti-todda-vaddi	9: 35-36, t. 20. 1689
<i>Nerium oleander</i> L.	APOCYNACEAE	Belluta-areli	9: 3, t. 2. 1689
<i>Nerium oleander</i> L.	APOCYNACEAE	Tsjovanna-areli	9: 1-2, t. 1.1689
<i>Nesaea prostrata</i> (Dillwyn) Suresh	LYTHRACEAE	Beli-tsjira	9: 165, t. 84.1689

<i>Parsonsia alboflavescens</i> (Dennst.) Mabb.	APOCYNACEAE	Kudici-kodi	9: 13, t. 9. 1689
<i>Parsonsia alboflavescens</i> (Dennst.) Mabb.	APOCYNACEAE	Wallia-pal-valli	9: 15, t. 10. 1689
<i>Polygala arvensis</i> Willd.	POLYGALACEAE	Katu-vistna-clandi	9: 119, t. 61. 1689
<i>Polygala arvensis</i> Willd.	POLYGALACEAE	Kodatsjeri	9: 131, t. 67. 1689
<i>Pycnospora lutescens</i> (Poir.) Schindler	FABACEAE	Nir-pullari	9: 67, t. 36. 1689
<i>Rhinacanthus nasuta</i> (L.) Kurz	ACANTHACEAE	Pul-colli	9: 135, t. 69. 1689
<i>Rhynchoglossum obliquum</i> Bl.	GESNERIACEAE	Kalu-tali	9: 157, t. 80. 1689
<i>Sesamum indicum</i> L.	PEDALIACEAE	Car-elu	9: 107, t. 55. 1689
<i>Sesamum indicum</i> L.	PEDALIACEAE	Schit-elu	9: 105-106, t. 54. 1689
<i>Sonerila rheedei</i> Wall. ex Wight & Arn.	MELASTOMACEAE	Soneri-ila	9: 127, t. 65. 1689
<i>Spermacoce hispida</i> L.	RUBIACEAE	Tardavel	9: 149, t. 76. 1689
<i>Striga asiatica</i> (L.) Kuntze	SCROPHULARIACEAE	Kalu-polapen	9: 129, t. 66. 1689
<i>Tephrosia rheedei</i> DC.	FABACEAE	Man-todda-vaddi	9: 39, t. 22. 1689
<i>Torenia bicolor</i> Dalz.	SCROPHULARIACEAE	Kaka-pu	9: 103, t. 53. 1689
<i>Tylophora indica</i> (N. Burm.) Merr.	ASCLEPIADACEAE	Nansjera-patsja	9: 21-22, t. 13. 1689
<i>Tylophora tetrapetala</i> (Dennst.) Suresh	ASCLEPIADACEAE	Parparam	9: 29, t. 17. 1689
<i>Utricularia reticulata</i> Sm.	LENTIBULARIACEAE	Nelipu	9: 137, t. 70. 1689
<i>Wattakaka volubilis</i> (L.f.) Stapf	ASCLEPIADACEAE	Watta-kaka-kodi	9: 25-26, t. 15. 1689
<i>Wrightia tinctoria</i> R.Br.	APOCYNACEAE	Nelem-pala	9: 5, t. 3-4. 1689
<i>Xyris indica</i> L.	XYRIDACEAE	Kotsjiletti-pullu	9: 139, t. 71. 1689
<i>Zornia diphylla</i> (L.) Pers.	FABACEAE	Mallam-tsjulli	9: 163, t. 83. 1689
<i>Zornia gibbosa</i> Span.	FABACEAE	Nelam-mari	9: 161, t. 82. 1689

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

Malayalam Name	Scientific Name	Family	Volume / Fig. / Year
Ada-kodien	<i>Holostemma ada-kodien</i> R.Br. ex Schult.	ASCLEPIADACEAE	9: 9-10, t. 7.1689
Adel-odagam	<i>Adhatoda zeylanica</i> Medicus	ACANTHACEAE	9: 81, t. 43.1689
Aria-veela	<i>Cleome viscosa</i> L.	CAPPARACEAE	9: 41, t. 23. 1689
Bahel-tsjulli	<i>Artanema longifolium</i> (L.) Vatke	SCROPHULARIACEAE	9: 169-170, t. 87.1689
Beli-tsjira	<i>Nesaea prostrata</i> (Dillwyn) Suresh	LYTHRACEAE	9: 165, t. 84.1689
Belluta-areli	<i>Nerium oleander</i> L.	APOCYNACEAE	9: 3, t. 2. 1689
Bellutta-onapu	<i>Impatiens minor</i> (DC.) Suresh	BALSAMINACEAE	9: 99, t. 51. 1689
Belutta-kaka-kodi	<i>Chonemorpha fragrans</i> (Moon) Alston	APOCYNACEAE	9: 7-8, t. 5-6.1689
Cara-caniram	<i>Andrographis paniculata</i> (N. Burm.) Wall. ex Nees	ACANTHACEAE	9: 109-110, t. 56.1689
Cara-veela	<i>Gynandropsis gynandra</i> (L.) Briq.	CAPPARACEAE	9: 43, t. 24.1689
Car-elu	<i>Sesamum indicum</i> L.	PEDALIACEAE	9: 107, t. 55.1689
Coletta-veetla	<i>Barleria prionitis</i> L.	ACANTHACEAE	9: 77-78, t. 41. 1689
Corosinam	<i>Centranthera indica</i> (L.) Gamble	SCROPHULARIACEAE	9: 133, t. 68.1689
Cupa-vela	<i>Catharanthus pusillus</i> (Murr.) G. Don	APOCYNACEAE	9: 61, t. 33. 1689
Ene-pael	<i>Hydrilla verticillata</i> (L.f.) Royle	HYDROCHARITACEAE	9: 159, t. 81.1689
Entada	<i>Entada rheedei</i> Spreng.	FABACEAE	9: 151, t. 77.1689
Kaka-kodi	<i>Anodendron paniculatum</i> A. DC.	APOCYNACEAE	9: 11-12, t. 8.1689
Kaka-pu	<i>Torenia bicolor</i> Dalz.	SCROPHULARIACEAE	9: 103, t. 53.1689
Kalu-polapen	<i>Striga asiatica</i> (L.) Kuntze	SCROPHULARIACEAE	9: 129, t. 66. 1689
Kalu-tali	<i>Rhynchoglossum obliquum</i> Bl.	GESNERIACEAE	9: 157, t. 80.1689
Kametti-valli	<i>Kamettia caryophyllata</i> (Roxb.) Nicol. & Suresh	APOCYNACEAE	9: 23-24, t. 14. 1689
Kattu-tagera	<i>Indigofera hirsuta</i> L.	FABACEAE	9: 55, t. 30.1689
Katu-karivi	<i>Andrographis atropurpurea</i> (Dennst.) Alston ex Mabb.	ACANTHACEAE	9: 83, t. 44.1689
Katu-pal-valli	<i>Cryptolepis buchananii</i> R. Br. ex Roem. & Schult.	ASCLEPIADACEAE	9: 17-18, t. 11.1689
Katu-pee-tsjanga- puspam	<i>Lindernia crustacea</i> (L.) F. v. Muell.	SCROPHULARIACEAE	9: 113, t. 58. 1689

Katu-vistna-clandi	<i>Polygala arvensis</i> Willd.	POLYGALACEAE	9: 119, t. 61. 1689
Kodatsjeri	<i>Polygala arvensis</i> Willd.	POLYGALACEAE	9: 131, t. 67.1689
Kondam-pullu	<i>Lindernia oppositifolia</i> (Retz.) Mukh.	SCROPHULARIACEAE	9: 57, t. 31.1689
Kotsjiletti-pullu	<i>Xyris indica</i> L.	XYRIDACEAE	9: 139, t. 71.1689
Kudici-kodi	<i>Parsonsia alboflavescens</i> (Dennst.) Mabb.	APOCYNACEAE	9: 13, t. 9. 1689
Iribeli	<i>Coleus amboinicus</i> Lour.	LAMIACEAE	9: 145-146, t. 74. 1689
Malam-todda-vadi	<i>Cassia kleinii</i> Wight & Arn.	FABACEAE	9: 37, t. 21.1689
Mallam-tsulli	<i>Zornia diphylla</i> (L.) Pers.	FABACEAE	9: 163, t. 83.1689
Manja-kurini	<i>Crossandra infundibuliformis</i> (L.) Nees	ACANTHACEAE	9: 121, t. 62.1689
Manneli	<i>Indigofera aspalathoides</i> Vahl ex DC.	FABACEAE	9: 69, t. 37.1689
Man-onapu	<i>Impatiens minor</i> (DC.) Suresh	BALSAMINACEAE	9: 95, t. 50.1689
Man-todda-vaddi	<i>Tephrosia rheedei</i> DC.	FABACEAE	9: 39, t. 22. 1689
Minangani	<i>Acrocephalus hispidus</i> (L.) Nicols. & Sivadasan	LAMIACEAE	9: 141, t. 72.1689
Nansjera-patsja	<i>Tylophora indica</i> (N. Burm.) Merr.	ASCLEPIADACEAE	9: 21-22, t.13. 1689
Nelam-mari	<i>Zornia gibbosa</i> Span.	FABACEAE	9: 161, t. 82.1689
Nelam-parenda	<i>Hybanthus enneaspermus</i> (L.) F. v. Muell.	VIOLACEAE	9: 117, t. 60.1689
Nelem-pala	<i>Wrightia tinctoria</i> R.Br.	APOCYNACEAE	9: 5, t. 3-4.1689
Nelipu	<i>Utricularia reticulata</i> Sm.	LENTIBULARIACEAE	9: 137, t. 70.1689
Neli-tali	<i>Aeschynomene indica</i> L.	FABACEAE	9: 31-32, t.18. 1689
Nella-tandale-cotti	<i>Crotalaria laburnifolia</i> L.	FABACEAE	9: 49, t. 27.1689
Nir-murri	<i>Alysicarpus bupleurifolius</i> (L.) DC.	FABACEAE	9: 59, t. 32.1689
Nir-pullari	<i>Pycnospora lutescens</i> (Poir.) Schindler	FABACEAE	9: 67, t. 36.1689
Niti-todda-vaddi	<i>Neptunia prostrata</i> (Lam.) Baill.	FABACEAE	9: 35-36, t. 20. 1689
Njota-njodien-valli	<i>Ceropegia candelabrum</i> L.	ASCLEPIADACEAE	9: 27-28, t. 16.1689
Notenga	<i>Impatiens balsamina</i> L.	BALSAMINACEAE	9: 101, t. 52.1689
Onapu	<i>Impatiens chinensis</i> L.	BALSAMINACEAE	9: 89-90, t. 47. 1689
Pal-valli	<i>Ichnocarpus frutescens</i> (L.) W. T. Aiton	APOCYNACEAE	9: 19, t.12. 1689
Parparam	<i>Tylophora tetrapetala</i> (Dennst.) Suresh	ASCLEPIADACEAE	9: 29, t.17. 1689
Pee-tandale-cotti	<i>Crotalaria verrucosa</i> L.	FABACEAE	9: 53, t. 29.1689
Pee-tardavel	<i>Allmania nodiflora</i> (L.) R. Br. ex Wight	AMARANTHACEAE	9: 153, t. 79.1689
Pee-tsjang-puspan	<i>Lindernia ciliata</i> (Calesm.) Pennell	SCROPHULARIACEAE	9: 115, t. 59.1689
Pee-tumba	<i>Indoneesiella echioides</i> (L.) Sreem.	ACANTHACEAE	9: 87, t. 46.1689
Perim-munja	<i>Acalypha fruticosa</i> Forssk.	EUPHORBIACEAE	9: 147, t. 75.1689
Pola-tsjiira	<i>Bergia capensis</i> L.	ELATINACEAE	9: 153, t. 78.1689

Pul-colli	<i>Rhinacanthus nasuta</i> (L.) Kurz	ACANTHACEAE	9: 135, t. 69.1689
Schit-elu	<i>Sesamum indicum</i> L.	PEDALIACEAE	9: 105-106, t. 54.1689
Soneri-ila	<i>Sonerila rheedei</i> Wall. ex Wight & Arn.	MELASTOMATACEAE	9: 127, t. 65.1689
Suendadi-pullu	<i>Melilotus indica</i> (L.) All.	FABACEAE	9: 75, t. 40.1689
Tali-pullu	<i>Murdannia nudiflora</i> (L.) Brenan	COMMELINACEAE	9: 123, t. 63.1689
Tandale-cotti	<i>Crotalaria juncea</i> L.	FABACEAE	9: 47, t. 26.1689
Tandale-cotti	<i>Crotalaria retusa</i> L.	FABACEAE	9: 45-46, t. 25.1689
Tardavel	<i>Spermacoce hispida</i> L.	RUBIACEAE	9: 149, t. 76. 1689
Tilo-onapu	<i>Impatiens balsamina</i> L.	BALSAMINACEAE	9: 101, t. 52.1689
Todda-vaddi	<i>Biophytum candolleianum</i> Wight	OXALIDACEAE	9: 33-34, t. 19. 1689
Tsjanga-puspan	<i>Lindernia rotundifolia</i> (L.) Alston	SCROPHULARIACEAE	9: 111, t. 57.1689
Tsjeria-manga-nari	<i>Limnophila indica</i> (L.) Druce	SCROPHULARIACEAE	9: 165, t. 85.1689
Tsjeria-onapu	<i>Impatiens tilo</i> (DC.) Suresh	BALSAMINACEAE	9: 93, t. 49.1689
Tsjeru-manelli	<i>Dentella repens</i> (L.) J. R. & G. Forster	RUBIACEAE	9: 73, t. 39.1689
Tsjeru-uren	<i>Melochia corchorifolia</i> L.	STERCULIACEAE	9: 143, t. 73.1689
Tsjeru-vela	<i>Cleome monophylla</i> L.	CAPPARACEAE	9: 63, t. 34. 1689
Tsjieria-narinampuli	<i>Begonia malabarica</i> Lam.	BEGONIACEAE	9: 167-168, t. 86.1689
Tsjovanna-areli	<i>Nerium oleander</i> L.	APOCYNACEAE	9: 1-2, t. 1.1689
Tsjovanna-mannelli	<i>Indigofera uniflora</i> Ham. ex Roxb.	FABACEAE	9: 71, t. 38.1689
Upu-dali	<i>Dipteracanthus patulus</i> (Jacq.) Nees	ACANTHACEAE	9: 125, t. 64.1689
Vada-kodi	<i>Justicia gendarussa</i> N. Burm.	ACANTHACEAE	9: 79-80, t. 42.1689
Vallia-capo-molago	<i>Capsicum frutescens</i> L.	SOLANACEAE	9: 65, t. 35. 1689
Valli-onapu	<i>Impatiens latifolia</i> L.	BALSAMINACEAE	9: 91, t. 48. 1689
Valli-upu-dali	<i>Asystasia gangetica</i> (L.) Anders.	ACANTHACEAE	9: 85, t. 45.1689
Wallia-pal-valli	<i>Parsonsia alboflavescens</i> (Dennst.) Mabb.	APOCYNACEAE	9: 15, t. 10. 1689
Watta-kaka-kodi	<i>Wattakaka volubilis</i> (L.f.) Stapf	ASCLEPIADACEAE	9: 25-26, t. 15. 1689
Wellia-tandale-cotti	<i>Crotalaria quinquefolia</i> L.	FABACEAE	9: 51, t. 28. 1689

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

Family	Scientific Name	Malayalam Name	Volume / Fig. / Year
ACANTHACEAE	<i>Adhatoda zeylanica</i> Medicus	Adel-odagam	9: 81, t. 43.1689
ACANTHACEAE	<i>Andrographis atropurpurea</i> (Dennst.) Alston ex Mabb	Katu-karivi	9: 83, t. 44.1689
ACANTHACEAE	<i>Andrographis paniculata</i> (N. Burm.) Wall. ex Nees	Cara-caniram	9: 109-110, t. 56.1689
ACANTHACEAE	<i>Asystasia gangetica</i> (L.) Anders.	Valli-upu-dali	9: 85, t. 45.1689
ACANTHACEAE	<i>Barleria prionitis</i> L.	Coletta-veetla	9: 77-78, t. 41. 1689
ACANTHACEAE	<i>Crossandra infundibuliformis</i> (L.) Nees	Manja-kurini	9: 121, t. 62.1689
ACANTHACEAE	<i>Dipteracanthus patulus</i> (Jacq.) Nees	Upu-dali	9: 125, t. 64.1689
ACANTHACEAE	<i>Indoneesiella echiodides</i> (L.) Sreem.	Pee-tumba	9: 87, t. 46.1689
ACANTHACEAE	<i>Justicia gendarussa</i> N. Burm.	Vada-kodi	9: 79-80, t. 42.1689
ACANTHACEAE	<i>Rhinacanthus nasuta</i> (L.) Kurz	Pul-colli	9: 135, t. 69.1689
AMARANTHACEAE	<i>Allmania nodiflora</i> (L.) R. Br. ex Wight	Pee-tardavel	9: 153, t. 79.1689
APOCYNACEAE	<i>Anodendron paniculatum</i> A. DC.	Kaka-kodi	9: 11-12, t. 8.1689
APOCYNACEAE	<i>Catharanthus pusillus</i> (Murr.) G. Don	Cupa-vela	9: 61, t. 33. 1689
APOCYNACEAE	<i>Chonemorpha fragrans</i> (Moon) Alston	Belutta-kaka-kodi	9: 7-8, t. 5-6.1689
APOCYNACEAE	<i>Ichnocarpus frutescens</i> (L.) W. T. Aiton	Pal-valli	9: 19, t.12. 1689
APOCYNACEAE	<i>Kametia caryophyllata</i> (Roxb.) Nicol. & Suresh	Kametti-valli	9: 23-24, t. 14. 1689
APOCYNACEAE	<i>Nerium oleander</i> L.	Belluta-areli	9: 3, t. 2. 1689
APOCYNACEAE	<i>Nerium oleander</i> L.	Tsjovanna-areli	9: 1-2, t. 1.1689
APOCYNACEAE	<i>Parsonsia alboflavescens</i> (Dennst.) Mabb.	Kudici-kodi	9: 13, t. 9. 1689
APOCYNACEAE	<i>Parsonsia alboflavescens</i> (Dennst.) Mabb.	Wallia-pal-valli	9: 15, t. 10. 1689
APOCYNACEAE	<i>Wrightia tinctoria</i> R.Br.	Nelem-pala	9: 5, t. 3-4.1689
ASCLEPIADACEAE	<i>Ceropegia candelabrum</i> L.	Njota-njodien-valli	9: 27-28, t. 16.1689
ASCLEPIADACEAE	<i>Cryptolepis buchananii</i> R. Br. ex Roem. & Schult.	Katu-pal-valli	9: 17-18, t. 11.1689
ASCLEPIADACEAE	<i>Holostemma ada-kodien</i> R.Br. ex Schult.	Ada-kodien	9: 9-10, t. 7.1689
ASCLEPIADACEAE	<i>Tylophora indica</i> (N. Burm.) Merr.	Nansjera-patsja	9: 21-22, t.13. 1689
ASCLEPIADACEAE	<i>Tylophora tetrapetala</i> (Dennst.) Suresh	Parparam	9: 29, t.17. 1689

ASCLEPIADACEAE	<i>Wattakaka volubilis</i> (L.f.) Stapf	Watta-kaka-kodi	9: 25-26, t. 15. 1689
BALSAMINACEAE	<i>Impatiens balsamina</i> L.	Notenga	9: 101, t. 52.1689
BALSAMINACEAE	<i>Impatiens balsamina</i> L.	Tilo-onapu	9: 101, t. 52.1689
BALSAMINACEAE	<i>Impatiens chinensis</i> L.	Onapu	9: 89-90, t. 47. 1689
BALSAMINACEAE	<i>Impatiens latifolia</i> L.	Valli-onapu	9: 91, t. 48. 1689
BALSAMINACEAE	<i>Impatiens minor</i> (DC.) Suresh	Bellutta-onapu	9: 99, t. 51. 1689
BALSAMINACEAE	<i>Impatiens minor</i> (DC.) Suresh	Man-onapu	9: 95, t. 50.1689
BALSAMINACEAE	<i>Impatiens tilo</i> (DC.) Suresh	Tsjeria-onapu	9: 93, t. 49.1689
BEGONIACEAE	<i>Begonia malabarica</i> Lam.	Tsjeria-narinampuli	9: 167-168, t. 86.1689
CAPPARACEAE	<i>Cleome monophylla</i> L.	Tsjeru-vela	9: 63, t. 34. 1689
CAPPARACEAE	<i>Cleome viscosa</i> L.	Aria-veela	9: 41, t. 23. 1689
CAPPARACEAE	<i>Gynandropsis gynandra</i> (L.) Briq.	Cara-veela	9: 43, t. 24.1689
COMMELINACEAE	<i>Murdannia nudiflora</i> (L.) Brenan	Tali-pullu	9: 123, t. 63.1689
ELATINACEAE	<i>Bergia capensis</i> L.	Pola-tsjira	9: 153, t. 78.1689
EUPHORBIACEAE	<i>Acalypha fruticosa</i> Forssk.	Perim-munja	9: 147, t. 75.1689
FABACEAE	<i>Aeschynomene indica</i> L.	Neli-tali	9: 31-32, t.18. 1689
FABACEAE	<i>Alysicarpus bupleurifolius</i> (L.) DC.	Nir-murri	9: 59, t. 32.1689
FABACEAE	<i>Cassia kleinii</i> Wight & Arn.	Malam-todda-vadi	9: 37, t. 21.1689
FABACEAE	<i>Crotalaria juncea</i> L.	Tandale-cotti	9: 47, t. 26.1689
FABACEAE	<i>Crotalaria laburnifolia</i> L.	Nella-tandale-cotti	9: 49, t. 27.1689
FABACEAE	<i>Crotalaria quinquefolia</i> L.	Wellia-tandale-cotti	9: 51, t. 28. 1689
FABACEAE	<i>Crotalaria retusa</i> L.	Tandale-cotti	9: 45-46, t. 25.1689
FABACEAE	<i>Crotalaria verrucosa</i> L.	Pee-tandale-cotti	9: 53, t. 29.1689
FABACEAE	<i>Entada rheedei</i> Spreng.	Entada	9: 151, t. 77.1689
FABACEAE	<i>Indigofera aspalathoides</i> Vahl ex DC.	Manneli	9: 69, t. 37.1689
FABACEAE	<i>Indigofera hirsuta</i> L.	Kattu-tagera	9: 55, t. 30.1689
FABACEAE	<i>Indigofera uniflora</i> Ham. ex Roxb.	Tsjovanna-manneli	9: 71, t. 38.1689
FABACEAE	<i>Melilotus indica</i> (L.) All.	Suendadi-pullu	9: 75, t. 40.1689
FABACEAE	<i>Neptunia prostrata</i> (Lam.) Baill.	Niti-todda-vaddi	9: 35-36, t. 20. 1689
FABACEAE	<i>Pycnospora lutescens</i> (Poir.) Schindler	Nir-pullari	9: 67, t. 36.1689
FABACEAE	<i>Tephrosia rheedei</i> DC.	Man-todda-vaddi	9: 39, t. 22. 1689
FABACEAE	<i>Zornia diphylla</i> (L.) Pers.	Mallam-tsjulli	9: 163, t. 83.1689
FABACEAE	<i>Zornia gibbosa</i> Span.	Nelam-mari	9: 161, t. 82.1689
GESNERIACEAE	<i>Rhynchoglossum obliquum</i> Bl.	Kalu-tali	9: 157, t. 80.1689
HYDROCHARITACEAE	<i>Hydrilla verticillata</i> (L.f.) Royle	Ene-pael	9: 159, t. 81.1689
LAMIACEAE	<i>Acrocephalus hispidus</i> (L.) Nicols. & Sivadasan	Minangani	9: 141, t. 72.1689

LAMIACEAE	<i>Coleus amboinicus</i> Lour.	Iribeli	9: 145-146, t. 74. 1689
LENTIBULARIACEAE	<i>Utricularia reticulata</i> Sm.	Nelipu	9: 137, t. 70.1689
LYTHRACEAE	<i>Nesaea prostrata</i> (Dillwyn) Suresh	Beli-tsjira	9: 165, t. 84.1689
MELASTOMATACEAE	<i>Sonerila rheedei</i> Wall. ex Wight & Arn.	Soneri-ila	9: 127, t. 65.1689
OXALIDACEAE	<i>Biophytum candolleianum</i> Wight	Todda-vaddi	9: 33-34, t. 19. 1689
PEDALIACEAE	<i>Sesamum indicum</i> L.	Car-el	9: 107, t. 55.1689
PEDALIACEAE	<i>Sesamum indicum</i> L.	Schit-el	9: 105-106, t. 54.1689
POLYGALACEAE	<i>Polygala arvensis</i> Willd.	Katu-vistna-clandi	9: 119, t. 61. 1689
POLYGALACEAE	<i>Polygala arvensis</i> Willd.	Kodatsjeri	9: 131, t. 67.1689
RUBIACEAE	<i>Dentella repens</i> (L.) J. R. & G. Forster	Tsjeru-manelli	9: 73, t. 39.1689
RUBIACEAE	<i>Spermacoce hispida</i> L.	Tardavel	9: 149, t. 76. 1689
SCROPHULARIACEAE	<i>Artanema longifolium</i> (L.) Vatke	Bahel-tsjulli	9: 169-170, t. 87.1689
SCROPHULARIACEAE	<i>Centranthera indica</i> (L.) Gamble	Corosinam	9: 133, t. 68.1689
SCROPHULARIACEAE	<i>Limnophila indica</i> (L.) Druce	Tsjeria-manga-nari	9: 165, t. 85.1689
SCROPHULARIACEAE	<i>Lindernia ciliata</i> (Calesm.) Pennell	Pee-tsjanga-puspan	9: 115, t. 59.1689
SCROPHULARIACEAE	<i>Lindernia crustacea</i> (L.) F. v. Muell.	Katu-pee-tsjanga-puspan	9: 113, t. 58. 1689
SCROPHULARIACEAE	<i>Lindernia oppositifolia</i> (Retz.) Mukh.	Kondam-pullu	9: 57, t. 31.1689
SCROPHULARIACEAE	<i>Lindernia rotundifolia</i> (L.) Alston	Tsjanga-puspan	9: 111, t. 57.1689
SCROPHULARIACEAE	<i>Striga asiatica</i> (L.) Kuntze	Kalu-polapen	9: 129, t. 66. 1689
SCROPHULARIACEAE	<i>Torenia bicolor</i> Dalz.	Kaka-pu	9: 103, t. 53.1689
SOLANACEAE	<i>Capsicum frutescens</i> L.	Vallia-capo-molago	9: 65, t. 35. 1689
STERCULIACEAE	<i>Melochia corchorifolia</i> L.	Tsjeru-uren	9: 143, t. 73.1689
VIOLACEAE	<i>Hybanthus enneaspermus</i> (L.) F. v. Muell.	Nelam-parenda	9: 117, t. 60.1689
XYRIDACEAE	<i>Xyris indica</i> L.	Kotsjiletti-pullu	9: 139, t. 71.1689

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

Konkani Name	Malayalam Name	Portuguese Name	Dutch/Belg. Name	Volume / Fig. / Year
*	Ada-kodien	*	*	9: 9-10, t. 7.1689
*	Bahel-tsjulli	*	*	9: 169-170, t. 87.1689
*	Beli-tsjira	*	*	9: 165, t. 84.1689
*	Belluta-areli	*	*	9: 3, t. 2. 1689
*	Bellutta-onapu	*	*	9: 99, t. 51. 1689
*	Belutta-kaka-kodi	*	*	9: 7-8, t. 5-6.1689
*	Corosinam	*	*	9: 133, t. 68.1689
*	Ene-pael	*	*	9: 159, t. 81.1689
*	Entada	*	*	9: 151, t. 77.1689
*	Kalu-polapen	*	*	9: 129, t. 66. 1689
*	Kalu-tali	*	*	9: 157, t. 80.1689
*	Kattu-tagera	*	*	9: 55, t. 30.1689
*	Katu-pal-valli	*	*	9: 17-18, t. 11.1689
*	Katu-pee-tsjanga-puspan	*	*	9: 113, t. 58. 1689
*	Katu-vistna-clandi	*	*	9: 119, t. 61. 1689
*	Kodatsjeri	*	*	9: 131, t. 67.1689
*	Kondam-pullu	*	*	9: 57, t. 31.1689
*	Kotsjiletti-pullu	*	*	9: 139, t. 71.1689
*	Malam-todda-vadi	*	*	9: 37, t. 21.1689
*	Mallam-tsjulli	*	*	9: 163, t. 83.1689
*	Manneli	*	*	9: 69, t. 37.1689
*	Man-onapu	*	*	9: 95, t. 50.1689
*	Man-todda-vaddi	*	*	9: 39, t. 22. 1689
*	Nelam-mari	*	*	9. 161, t. 82.1689
*	Nelam-parenda	*	*	9: 117, t. 60.1689
*	Nelipu	*	*	9: 137, t. 70.1689
*	Nir-murri	*	*	9: 59, t. 32.1689
*	Nir-pullari	*	*	9: 67, t. 36.1689

*	Notenga	*	*	9: 101, t. 52.1689
*	Pal-valli	*	*	9: 19, t.12. 1689
*	Parparam	*	*	9: 29, t.17. 1689
*	Pee-tardavel	*	*	9: 153, t. 79.1689
*	Pee-tsjanga-puspam	*	*	9: 115, t. 59.1689
*	Perim-munja	*	*	9: 147, t. 75.1689
*	Pola-tsjira	*	*	9: 153, t. 78.1689
*	Soneri-ila	*	*	9: 127, t. 65.1689
*	Suendadi-pullu	*	*	9: 75, t. 40.1689
*	Tali-pullu	*	*	9: 123, t. 63.1689
*	Tardavel	*	*	9: 149, t. 76. 1689
*	Tilo-onapu	*	*	9: 101, t. 52.1689
*	Tsjanga-puspam	*	*	9: 111, t. 57.1689
*	Tsjeria-manga-nari	*	*	9: 165, t. 85.1689
*	Tsjeru-manelli	*	*	9: 73, t. 39.1689
*	Tsjeru-uren	*	*	9: 143, t. 73.1689
*	Tsjeru-vela	*	*	9: 63, t. 34. 1689
*	Tsjeria-narinampuli	*	*	9: 167-168, t. 86.1689
*	Tsjovanna-areli	*	*	9: 1-2, t. 1.1689
*	Tsjovanna-manneli	*	*	9: 71, t. 38.1689
*	Upu-dali	*	*	9: 125, t. 64.1689
*	Vallia-capo-molago	*	*	9: 65, t. 35. 1689
*	Valli-upu-dali	*	*	9: 85, t. 45.1689
*	Wallia-pal-valli	*	*	9: 15, t. 10. 1689
*	Watta-kaka-kodi	*	*	9: 25-26, t. 15. 1689
Abuli	Manja-kurini	*	*	9: 121, t. 62.1689
Adulasso	Adel-odagam	*	*	9: 81, t. 43.1689
Boin-Caro	Cara-caniram	*	*	9: 109-110, t. 56.1689
Butta-Gageri	Pee-tandale-cotti	*	*	9: 53, t. 29.1689
Butumbo	Pee-tumba	*	*	9: 87, t. 46.1689
Caela-Dolo	Kaka-pu	*	*	9: 103, t. 53.1689
Carabalo	Iribeli	*	*	9: 145-146, t. 74. 1689
Caro Tilu	Car-elu	*	*	9: 107, t. 55.1689
Dacoli-Gageri	Tandale-cotti	*	*	9: 47, t. 26.1689
Dadumari	Pul-colli	*	*	9: 135, t. 69.1689

Kors-Appel	Fruita-Cota	Matti-Gonsal	Kattu-piccina	8: 15, t. 8. 1688
Krimpbonen	Favas dos Paros	Rana Valu	Katu-baramareca	8: 87-88, t. 45. 1688
Kroeseling	Narola	*	Orela-modecca	8: 45, t. 23. 1688
Kroonblad	Folhas da Coroa	Bajasajo	Kudici-valli	8: 52 ("51"), t. 27. 1688
Maagde Kruyt	Fabas Cuseria	Guilo	Nai-corana	8: 61-62, t. 35.1688
Maanbonen	Fabas Turquesca	Hasticanto	Ana-mullu	8: 73- 74, t. 40. 1688
Meerboonen	Grao do Pulia	Udidi	Katu-ulunu	8: 95, t. 50. 1688
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