

† VERNACULAR SCIENCE SERIES: 14. †

CANARESE BOTANY PRIMER.

ಕನ್ನಡ ಶಾಸ್ತ್ರ - ಪ್ರಥಮ ಪಾಠ ಪುಸ್ತಕ



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1393

BY
RAMAIA, B.A., L.T.,
(Mysore University College.)

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Vernacular Science Series : No. 14.

CANARESE BOTANY PRIMER

1393
ಲ. 146

BY

K. SITARAMAIYA, B. A., L. T.,

(*Madras Christian College.*)

ಕರ್ನಾಟಕ ಸಾಹಿತ್ಯ ಪರಿಷತ್ತು
ಪುಸ್ತಕ ಭಂಡಾರ
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1918.

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SUGNANA GRANDHA RATNAVALI.

[A Series of Scientific and Technical
Primers in Simple Vernacular.]

The object of the series is to make Western knowledge in science and technology available to our countrymen in their own Vernacular by means of primers, popular science publications, &c.

The following is the list of books already published :—

- (1) Tamil Zoology Primer.
- (2) Tamil Physiology Primer.
- (3) Telugu Botany Primer.
- (4) Telugu Physical Science Primer.
- (5) Telugu Physiology Primer.
- (6) Telugu Zoology Primer.
- (7) Telugu Arithmetic Primer.
- (8) Telugu Spacework Primer.
- (9) Telugu Hindudesa Rajyangapadhdhati.
- (10) Canarese Zoology Primer.
- (11) Malayalam Physiology Primer.
- (12) Tamil Hygiene Primer.
- (13) Telugu Economics Manual.
- (14) Canarese Botany Primer.

Forthcoming book : -

Canarese Physics Primer.

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MADRAS, PRINTED BY GRAVES, COOKSON & CO.



SUGNANA GRANDHA RATNAVALI
PREFACE.

It is a well-known fact that the mother tongue is the best medium for imparting knowledge. Much of the knowledge concerning sciences, arts, industries, etc., happens to be available at present, only to the English educated few. Books on such subjects as above written in simple and homely vernacular will be helpful to mothers to train their children and to the non-English knowing public to acquire a knowledge of the sciences, and modern achievements.

It has been said that when a man is educated it is only one member of the society that is educated; but when a woman is educated it is the whole family that is educated. The education of women is considered at least as important as that of men by all civilised nations throughout the world.

It has, also, been said that the average Indian is less informed than the average citizen of the Western countries concerning the scientific advancements and achievements, in modern times. Apart from the fact that Education has made out little progress among our masses, a prominent cause for this state of things is that there are no books in the vernaculars treating of modern sciences, etc., in an easy and simple language. We believe that vernacular books of this kind for our homes to help mothers in training their children, are a necessity; and that it is high time that an attempt should be made to bring the Modern knowledge and culture within the

reach of our countrymen by means of simple and homely vernacular publications.

If an observant child asks the mother how a flower in course of time is replaced by a fruit she is, in most cases, unable to answer the question. Female Education is at a low ebb and there are no home libraries worth the name.

We have therefore, decided to publish books on the above subjects, in the vernacular languages. The "SUGNANA GRANDHA RATNAVALI" is the name given to this series of books, and we are glad to be able to announce now, the fourteenth book of the general series.

The series is a systematic and earnest effort to produce reliable and regular science literature in the South Indian Vernaculars so as to make the Western knowledge in sciences and technology available to our countrymen in their own mother tongue.

Since the commencement of our efforts in this direction large sacrifices of labour as well as capital have been made and as many as fourteen illustrated primers were published in different South-Indian languages. The working board consists of well known gentlemen who have given a whole life-time for the training of the youth and who have taken kindly to the work for the sake of the great cause.

The scheme as well as the books published thus far, were all appreciated by competent judges as the accom-

panying "opinions" show. How well they have been received by the Press and the Public must be a source of satisfaction to all lovers of India who have, at heart, the spread of scientific and technical knowledge among our countrymen more widely by means of the vernacular than what has been possible through English, up till now.

Most of the books published have been approved by the Department of Education as suitable for school reading. In these days, however, the approval by the Department of Education, of any particular book, cannot help the author much financially.

Critics have appreciated the quantity as well as the quality of the work, thus far turned out. While expressing thankfulness for the success that attended our efforts till now, we have to say that what remains to be done is much more than what has already been done. Popular science publication as well as demonstration work have yet to be commenced.

But soon after the publication of the books we found that their sales could not sustain us. This, perhaps, is not unnatural in a country like India where the percentage of educated people is very small and a taste for scientific literature amongst them has yet to be created. Science and technology are practically unknown to the masses.

Several methods of financing the movement were, since, tried but none of these were sufficiently helpful. The only one of some practical result was when we went

out personally, explained the scheme to the select few and requested their help. Some gentlemen it was possible to find, both in the city as well as in the mofussil, who sympathised with our efforts and extended their helping hand; but, then, the cost and the inconvenience of travel as well as the waste of time and trouble involved were too great to make even this method sufficiently effective. The difficulty of realising the amounts promised has been, also, no small one.

A successful and speedy publication of these books has, thus, become purely a matter of funds and all lovers of India are requested to lend their helping hand, as well as they can, to this important educational movement.

The estimate for blocks, diagrams, engravings, half tones, &c., alone, has exceeded eighteen thousands of rupees, and we request the co-operation of the Indian States, specially for a speedy progress of the series. Science Literature in Vernaculars is, at present, scanty and we request the Indian States to give facilities for the publication of a series of this kind without minding whether the series is published within the boundaries of the State territory or outside it. It is only when attempts like this are largely encouraged by Indian States that copious literature on science subjects can come in existence and eventually we can have as good a bibliography in our own Vernaculars on science subjects as in any other languages. It is not the question whether a particular science book will be useful for school boys. It is not the question whether a particular science book will be read

by masses now. Science Vernacular publications, at present, must be encouraged as a matter of pioneer work.

In the beginning or at the end of the publications of our series the principle on which Vernacular equivalents for technical words are selected, is given. A list of words used in the book is, also, given. The object of this list is two-fold (i) to facilitate the work of gentlemen that may enter the field and (ii) to improve by any criticism.

The style adopted in this book, as in other books of the series, is a simple one. It must, however, be remembered that, howsoever simple the style adopted in science publications may have been, books on science subjects cannot be an easy reading, because, a certain amount of technical expression can never be dispensed with in their treatment. It is, therefore, particularly requested that those who have become accustomed to light literature will be at some pains to develop a taste for science publications and help their less favoured countrymen in understanding and utilising the information given.

The Scottish Press where this book has been printed is one of the few printing firms in Madras that do the Canarese work and its proprietor Mr. T. A. Ramachandra Rao is a young gentleman who takes a genuine interest in matters connected with the progress of our country. He took up this book in spite of a heavy season for the press and completed it with the characteristic neatness of that press in a short time. He has, thus, once

again, given a practical proof of his interest in this Educational movement and we hope, that his spirit of usefulness to our country will grow stronger in him as years roll on.

Our Telugu Botany primer was received kindly by the public and was also approved as suitable for School reading by the Department of Education. This book is a Canarese version of the same by the well-known Pandit M. D. Alasingarachariar of the Madras Christian College, whom we take this opportunity of thanking for the care and interest he has evinced in the work.

MADRAS, } K. SITARAMAIIYA,
 Sept. 1918. } *General Editor and Manager,*
S. G. R. Series.

A FEW OPINIONS OF THE PRESS AND THE
PUBLIC ON THE SERIES.

1. *The Madras Mail*.—".....We can conceive of no better task than this for any lover of India to undertake..."

"Mr. Sitaramaiya is doing praiseworthy work in writing science primers in the vernaculars for the benefit and enlightenment of those ignorant of English.....The author has done everything to make the exposition of the subject easy and popular. The work on which Mr. Sitaramaiya is engaged is an onerous and large undertaking and it deserves the support and patronage alike of the landed aristocracy and the Educational authorities of Madras, Mysore and Travancore." [2-10-14].

2. *The Madras Times*.—"Mr. K. Sitaramaiya of the Madras Christian College is doing work in the way of publishing a series of scientific primers in Tamil, Telugu, Canarese.....It has been a common complaint that it is difficult to teach sciences to Indian boys because there are no vernacular text books, and the series should supply a real want....." [13-10-14].

3. *The New India*.—".....One object in publishing this series is to present in all the important languages of South India, primers in scientific subject written in simple style and illustrated with necessary pictures and diagrams. It is the first time that any attempt to publish such books is made in this part of the country and we

understand that its success is due almost entirely to the untiring efforts of the General Editor Mr. Sitaramaiya, who has not spared either time or money to achieve his noble object.

These primers serve a very useful purpose and, if the present movement should be persisted in, must result in advancing to a considerable extent the knowledge of the masses in scientific matters. Of course, works like those issued in this series are till now rarely read by the people except as a matter of duty, though under the patronage of popular writers—of whom we have painfully few—they may reach a wide circle. But all the same, few unbiassed critics can deny the utility of such publications as those under review. Besides strengthening the position of the vernaculars in several ways they enable the educationists to extend the teaching of science to the Elementary Schools and, thus, add considerably to the store of knowledge of the masses in the subjects dealt with in the series. These advantages, both of first rate importance under existing circumstances in this country, must induce all patriotic persons to support the progress of the series" [10-9-14].

4. *The Indian Patriot*.—"Easily understood by the woman at home and meant to be easily understood, the "Sugnana Grandha Ratnavali Series" will be a scientific treasure house. From those who have the books before them, expression of admiration for their author is easily forthcoming. These books have been very highly commended by vernacular scholars. Every book that has hitherto been published has been very well done. Educa-

tional enterprises like the one which Mr. Sitaramaiya has set out deserve the support of the wealthy who ought to be able to take in large numbers of copies and distribute them to those who would read them and thus create a demand and taste. The question is not whether there is a demand for the vernacular science primers but whether there is a public opinion that the people should know something about the sciences. If there is such an opinion every educated man has a responsibility in the matter..." [20—8—14].

5. *The Hindu*.—"...These primers are written in a simple, easy and popular style, with copious illustrations and are suited to create an interest in the subjects...The author deserves to be congratulated on his primers and for the great care with which he has written them..."

6. *The Andhrapatrika*.—"Mr. K. Sitaramaiya of the Madras Christian College is rendering a great service to the country by publishing science primers in all the Dravidian Languages...There can be no doubt whatever that Mr. Sitaramaiya is quite fit to undertake such a task as this. His long experience as a teacher, his educational qualifications and the books he has already published bear out this fact. What has yet to be accomplished is far greater than what has so far been done. Co-operation of patriotic men and lovers of literature is essential for the rapid publication and distribution of these books...We wish every lover of India would co-operate with Mr. Sitaramaiya in the best way he can to make the undertaking a success." [23—9—14].

7. *The Swadesmitran*.—".....A scientific study of this nature should certainly be spread throughout our vast country...In our daily life we often see people tasting nicely the jack fruit slices over which flies from gutter clustered. Any one that knows the nature of these flies would not do so. It is they that really serve the country who spread such useful knowledge by publishing books of this kind.....The style is simple, the language is clear and the illustrations are profuse." [26—4—15].

8. *The Sasilekha* says.—".....There is no use of merely crying loud about patriotism from house tops. True patriotism must be shown in pushing forward such really useful causes." [14—4—14].

9. *The Madhuravane, Mysore*.—".....The study of science is the most important of all studies. It is a well-known fact that the knowledge obtained by the help of one's mother-tongue is, very impressive and lasting. It is a misfortune that there are no scientific publications in Canarese language useful to the beginners...The book of Zoology which is newly brought out by Mr. K. Sitaramaiya, B. A., L. T., of the Madras Christian College is useful even to young students, children and women...The style and the language of the book are simple and sweet. It is, undoubtedly, a difficult task to express scientific ideas in such a simple language. Many Canarese authors failed in their attempt for want of public encouragement. We earnestly hope that such a mishap does not befall this attempt...We beg to apologize to the Government of Mysore for suggesting that the grant set apart for Canarese Science publications be given to Mr. Sitaramaiya although he is not a Mysorean." [19—9—14].

10. *The New Reformer*.—"...Mr. Sitaramaiya has conferred great boon upon the public by producing books on such subjects in simple and homely vernaculars...We wish the undertaking every success." [10—6—14].

11. Dewan Bahadur V. Subramanyam Pantulu Garu, B. A., B. L., Dt. Judge, says—"....."

I am glad to be able to say that the work which you are doing is most invaluable for the country....I doubted for a time if it would be possible to render scientific treatises into popular Telugu without technical expressions and I am glad to find on reading your books, that you have shown that they could all be rendered into very beautiful, popular and readable Telugu..."

12. The Hon'ble Rev. G. Pittendrigh, M. A., says:—

"Your ideal is admirable. It is as I understand it, to produce Science primers in the chief South Indian Vernaculars, which may be used not only in the Elementary classes of schools, but as interesting books in the houses.....There is no doubt regarding the value of the object you have set before yourself." [9—1—15].

13. The Rev. E. M. Macphail, M. A., B. D., says:—
 "...As regards the object with which your series is being produced there cannot be any doubt as to its importance—at least not amongst those who regard Education as a good thing, and believe in the usefulness of the dissemination of accurate knowledge. The future welfare of India depends upon the education and enlightenment of the masses of the people and that can be achieved only

through the Vernaculars. I am not likely to underestimate the value of higher education or of English education, but it will be a misfortune for India if while a small section of the community adopts to a greater or less extent modern ideas, and ideals the masses of the people remain untouched, and thus the breach between the 'classes' and the 'masses' is made still wider. To reach the masses the mother-tongue is required and I think you are doing a good service to your country in preparing this series. One of the greatest needs of Southern India is good wholesome Vernacular literature written in a style which can be understood by the 'man in the street,' or, which is even more important by the woman in the home. The existence of books will, I am sure, create readers and I wish your venture all success. I hope that you will be able to find among Indian gentlemen of means not a few who will be willing to help you and your friends by contributing towards this good work." [19—1—15].

14. The Rev. W. Meston, M. A., B. D., says:—"I sincerely trust that Mr. K. Sitaramaiya will meet with much practical sympathy in the literary efforts which for some years past he has been making and which he still continues to make. His various books are inspired by a desire to open to all the rich stores of accurate knowledge. I know that he possesses a gift for imparting knowledge in English and the manner in which this is done in his Vernacular primers is well spoken of by competent judges. Mr. Sitaramaiya has spared neither time, labour, nor money in what he has already done. His time and money

are limited but as there seems to be no limit to his enthusiastic labour, I hope that the active support of many will crown that labour with the success of service." [6—2—15.]

15. Dr. Sir S. Subramania Iyer, K.C.I.E., LL.D., Chief Justice of the Madras High Court (Retired) writes:—

"It is scarcely necessary to say that the publication of South Indian Vernacular Science Series under the general Editorship of Professor K. Sitaramaiya is bound to prove of the utmost value to the people of this part of India. This praiseworthy undertaking deserves the support of all that are interested in the elevation of our countrymen.....I have myself become a constituent though my contribution is a very small one. I mention it merely by way of requesting as many as possible to become constituents to the extent they find it possible and thus forward the movement?." [21—10—17].

16. T. V. Seshagiri Aiyar, Esquire, B.A., B.L., Judge of the High Court of Judicature, Madras, writes:—

I consider that Mr. Sitaramaiya is doing real service to the public by his scientific primers. I have read them with interest.....I welcome efforts which aim at placing within the reach of the Tamilians scientific knowledge like that contained in the primers.....The style is easy and can be, without difficulty, followed by those who have no knowledge of English. [26—10—17].

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ವೃಥಮಪಾಠಪುಸ್ತಕವು.

ಇದು

ಕೆ. ಸೀತಾರಾಮಯ್ಯ, ಬಿ. ಎ. ಎಲ್. ಟಿ.,

(ಮದ್ರಾಸ್ ಕ್ರಿಸ್ತಿಯಾನ್ ಕಾಲೇಜು)

ಅನರಿದ ರಚಿಸಲ್ಪಟ್ಟುದು.

MADRAS.

1918.

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Innerbar k=ಅಂತರ್ಮುಕ.

Vascular bundle=ಕಾಷ್ಠ ನಾಳವುಂಡೆ.

Bast=ಶಜಿ.

90 Cambium=ವರ್ದ ಕಾವಳ.

Volatile oils=ಅಸ್ಥಿ ರಸೈಹ.

Fixed oil=ಸ್ಥಿ ರಸೈಹ.

Wood=ದಾರು.

Annular rings=ದಾರುವಲಯಗಳು.

Medullary rays=ನಡುಕಿರಣಗಳು.

Sap=ವೃಕ್ಷಪೋಷಕರಸ.



ದಿನಾಂಕ ಸೂಚಿ



ಕನ್ನಡ ಸಾಹಿತ್ಯ ಪರಿಷತ್ತು
ಪಂಪನುಹಾಕವಿ ರಸ್ತೆ, ಚಾಮರಾಜಪೇಟೆ, ಬೆಂಗಳೂರು-೧೮

ಸರಸ್ವತಿ ಭಂಡಾರ

ವಿ. ಸೂ: ೧೫ ದಿನಗಳಿಗಿಂತ ಹೆಚ್ಚು ಕಾಲ ಯಾರು ಪುಸ್ತಕವನ್ನಿಟ್ಟುಕೊಳ್ಳಲಾಗದು.

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ಲೇಖಕ:

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ಲೇಖಕ: ನೀಲಗಿರಿಮಯ್ಯ (ಕೆ)

ಕನ್ನಡಶಾಸ್ತ್ರವು.

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ಗ್ರಂಥ ಭಂಡಾರ

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