

2. Date 4.1.1937
3. Initials
M.R.O. 1-88,000-16-10-22.

MADRAS RECORD OFFICE.

Government of Madras.

Police **DEPARTMENT.**

G.O. No.	834	Press <u>Mis.</u>
Dated	19-6-	191869

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Department,

19th June 1869.

No. 119. Read the following letter* from Surgeon G. BIDIE, M. B.
(Here enter 3rd August 1868).

No. 120. ORDER THEREON, 19th June 1869, No. 837.

The foregoing is the report submitted by Surgeon George Bidie, M. B., and contains the result of the investigation which he was deputed to make into the injury caused by the ravages of the Borer insect to the coffee trees in Mysore, Coorg, and the Wynaad.

2. In order to prevent further climatic deterioration by forest clearance in situations not suited for coffee culture, to regulate the natural drainage of the country in the interests of the rice cultivation, and to maintain the fertility of the coffee zone, Dr. Bidie, at page 15 of his report, suggests that "in future when application is made for coffee land, the chief Revenue Officer and Executive Engineer of the District, along with the Conservator of Forests, should inspect the block selected, and ascertain whether or not it is suited for the purpose;" and at page 29 he lays down certain rules specifying the situations in which he considers now existing forest should be preserved.

3. The Government admit the importance of placing all possible restrictions on unnecessary felling, and resolve to refer Dr. Bidie's suggestions for the opinions of the Board of Revenue and the Conservator of Forests.

4. Fifty copies of the report will be furnished to Dr. Bidie for private distribution, and two hundred copies will be forwarded to Messrs. Gantz Brothers, who will be requested to sell them on commission at Rupees 2 per copy.

5. The Accountant General is requested to report what the entire cost of Dr. Bidie's investigation has been, and the Government consider that the time spent by Dr. Bidie in the territories of Mysore, Coorg, and Madras respectively, would be the fairest principle of division to adopt in apportioning the cost among the three Governments.

6. The Government have perused with much interest Dr. Bidie's able and exhaustive report, and request that gentleman to accept their best thanks for it and for the labour which he has expended in the investigation.

(True Extract).

Actg. Secy. to Govt.

* Printed separately.

To Surgeon G. Bidie, M. B.

To the Board of Revenue.

„ Conservator of Forests.

„ Accountant General.

„ Revenue Department.

To Messrs. Gantz Brothers.

Govt. of 1869 Madras

PUBLIC.

To

SURGEON G. BIDIE, M.D.

&c.

&c.

Dated June, 19th.

Recd.

G. O., 19th June 1869, No. 637.

JUNE

Nos. 119-120.

**Passing orders on Dr. Bidie's report on
avages of the Borer insect.**

Public Department.

Memorandum on Dr. Bidie's
Report on the Borer.

The results of Dr. Bidie's investigations accord in a remarkable degree with the opinions expressed in his letter to Government dated 16th October 1867. It is observed however, that the most important of them agree with the opinions of Dr. Shortt. Dr. Bidie was deputed on the special investigation on the 22nd October 1867, and remained engaged in it till the end of July 1868. His report is now printed,

and

Vide Proc. of Govt. Pub. Dept.
dated 22nd Oct. 1867

S. M.

See his Communication
embodied in Proc. of Govt.
Pub. Dept. dated 16th Feb. 1868

and embraces his remarks
on all the Coffee districts
inspected by him. He has
found it necessary in order
to arrive at satisfactory
conclusions to enter into
a disquisition on coffee
culture in general and
to draw up a succinct,
historical sketch of the
cultivation of the plant
in India.

Dr. Bidie gives a full
account, accompanied
with drawings of the
natural history and
habits of the insect
in its several stages of
larva, pupa, and beetle.
His most important
conclusions on this subject,
are

I. That the borer or *Xylo-*
-trechus

Xylotrechus is indigenous
to India. This is based on
concurrent testimony on the
impossibility, from its simul-
taneous appearance in wide-
ly distant localities, that
it could have been introduced,
and on the fact that larvae
exactly similar are
found in indigenous forest
trees.

II. That the beetle is di-
urnal in its habits.

III. That the entire life
of the insect is comprised
within a year, though
there is no regularity
in the times of its appearing
the several stages.

IV. That the beetles are
most numerous just
after the rains and
about the middle of
H.

the hot season, and that consequently the deposition of the ova is most active at these periods.

V. That the females which are more numerous than the males, select sunny places to deposit their ova and avoid shade. The ova do not readily hatch in shade.

Dr. Bidie is of opinion that the causes which led to the sudden and extensive development of the pest, in the year 1866, were the following:-

1. Unusual drought, which besides injuriously affecting the coffee, was favorable to the development of insect life in

in general and of the borer in particular.

2. A sickly condition of the coffee which invited the attacks of the borer and diminished the power of the plant to resist them. This condition was due partly to the last mentioned cause, but more especially to (i) inferior culture, and want of shade particularly at low elevations, where there is a long and dry hot season, (ii) influence of forest clearing, producing climatic changes, and (iii) extension of the cultivation during the years when speculative mania prevailed to sites and soils unsuited for it.

Dr.

(i) Dr. Bidie points out that coffee as an *exotic* in India requires high culture and particular care. It is a plant which requires a moderate degree of humidity throughout the year, and dislikes extremes, whether of heat or moisture. He discusses the operations of planting, weeding, digging, draining, pruning and manuring (p.p. 35-42.) and the value of shade. He states that though trees grown under the shade of the natural forest come into bearing later and are less productive than trees in the open, yet they are longer lived; and that trees grown

in

in artificial shade (that is under trees which are planted and grow up with the shrub) bear as soon as trees in the open.

(ii) On the subject of forest clearing, Dr. Bidie holds that the amount of the rainfall is not thereby affected, but that the humidity of the air, throughout the year is lessened in consequence of the water being more rapidly carried off by the natural drainage instead of being retained in the soil to exhale moisture in the dry season. This has rendered the climate of the coffee districts more trying to the plant.

Denudation of the soil, especially on steep slopes also takes place & scrub jungle springs ^{in spring} up, which is a source of malaria.

The chief proofs that climatic change has taken place, are that streams formerly perennial have become periodic, and that a change has taken place in the fauna and flora of the coffee zone.

(p. (iii)) To obviate further climatic deterioration from forest clearing and to prevent undue extension of the cultivation, Dr. B. Bidie suggests that in future when application is made for coffee lands, the Chief Revenue Officer and Executive Engineer

p. 15.

p. 29.

of the District, along with the Conservator of Forests should inspect the block selected, and ascertain whether or not it is suited for the purpose. He lays down some rules specifying situations in which forest should be preserved. He urges the preservation of forest as well in the interest of the rice cultivation in the valleys, which is dependent on natural streams, and has been injuriously affected in many cases by the change in the character of these streams above mentioned, as in the interests of the coffee culture. The adoption of Dr. Bidie's suggestion would necessitate

a modification of the rules
for the sale of waste land.
There can be no doubt that
such tutelage of private
enterprise would be re-
garded with disfavor by
the planters; and what-
ever necessity there may
have been for such restric-
tions in times of specula-
tion, it may be that they
would be superfluous now
that the conditions of suc-
cessful coffee culture in
India, are better understood,
and the industry is in
a rather depressed state.
The point might be referred
for the opinions of the
Revenue Board and Con-
servator of Forests. No
statistics are given as to
the extent to which
felling

Note
This seems hardly necessary
the suggestion does not seem
of any practical value. H.E.
I am at a loss
& make no answer
Mr. in the name of
I think that you for
as is the case.

felling has been carried.
The rainfall in the
different districts is
given in Diagram No. 1.
In part VI, or "Historical
Account and Statistics of
the ravages of the Borer",
from p. 53-61, Dr. Bidie sum-
marises the loss sustained
in the several districts.
His statement on this
head cannot be abridged,
or exhibited in a tabular
form. The results are given
in loose percentages for each
district, but the same ele-
ments not having been
considered in all cases a
fair comparison is impossible.
It does not appear from the
questions circulated by Dr.
Bidie to the planters, that
any systematic attempt
was made to collect
accurate

See Proc. of Govt. 17 Dec. 1867 for
the questions in Col. G. The Hynd
questions (?) are substantially
the same. Q. 14. in this set, "What
damage has the white borer done
on your estate" is the only ^{one} directly
bearing on the point.

accurate or approximate statistics on the subject of the extent of damage in estates cultivated on the opposite systems of shade, and in the open. Such might have been collected and given by Districts without any reference to individual estates. They would have afforded the most valuable test of the results of the two systems, and, unsupported by them, Dr. Bidie's conclusions have weight merely as opinions. Dr. Bidie does not seem to have sought co-operation from the Planters' Association.

Under the head "Remedial and Preventive measures", Dr. Bidie recommends

recommends a variety of expedients which may be classed as means for preventing the deposition of the ova of the insect, and means for removing the deposited ova before they are hatched. He describes a variety of washes and compounds with which the trees should be smeared, and several ways of removing the ova by rubbing off the outer layers of cracked bark in which they are deposited. The two most efficacious preventives are, however, shade and high culture.

Dr. Bidie also describes the red boxer, *Geuzera coffeophaga*, and a number of animals, and other insects which he classes as friends and foes

to remain in *Cobacarnum*
to write the report, and the
entire cost of bringing it
out, should be borne pro-
-portionately by the three
Governments, and if so, the
time spent by
him in the territories of
each is to be taken as
the principle of division. This seems the fairest method
The Accountant General of apportioning the cost.
might be called on to report
the whole cost of the in-
-vestigation.

Dr. Bidie asks that
50 copies of the report
may be given to him for
private distribution, and
suggests that if a certain
number were offered for
sale, they would probably
be readily purchased,

as

2. Vide Mr. Offord's letter
14 July 1868.

Including the charge for
a copyist Rs. 80, sanctioned
in G.O. 12 Nov. 1868 No. 1407.

N. A. S.

as he has received frequent
application from planters in
India and Ceylon. If sold
at Rs 2 per copy, probably
the proceeds would suffice
to meet the cost of publica-
-tion of the report.

The following proposed
distribution is submitted
for orders—

Government of India	Copies 25
Chief Commissioner of Mysore & Coorg	50
Resident of Travancore	10
Board of Revenue for dis- tribution to Collectors and Milderry Commissioners	25
Conservator of Forests	5
Dr. Bidie	50
Agri. horticultural Society	1
Planters Association (Mysore)	3
Members of Govt. Secretariat Govt. Office	15
Public Libraries	5
Madras Chamber of Commerce	3
Madras Newspapers	5
Literary Societies	3
	200

M. P. S.

Messrs Gault Brothers } 200
 for sale on Commission }
 400

In Proceedings of Government
 No. 635 dated 23rd May 1868, it
 is ordered that on the com-
 pletion of Dr. Bidie's in-
 vestigation, the whole
 of his reports be pub-
 lished as a Supplement
 to the Fort St. George Gazette.
 It is submitted that
 the present report is not
 suited for publication in
 such a form - Dr. Bidie's
 former reports are re-
 corded in the Orders and
 Proceedings marginally
 noted.

He thanks Dr. Bidie for
 the report presented
 to Dr. Bidie for
 his attention
 unless this can be
 done on some other
 occasion.

W. H.

G.O. 22nd Oct. /67 No. 1311.
 G.O. 17th Decr /67 No. 1590
 G.O. 28th Jan'y /68 No. 111.
 Pro. Pub. Sept 7th March /68
 G.O. 27th March /68 No. 394.
 G.O. 8th May /68 No. 570
 G.O. 9th May /68 No. 573.

23
Public Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Read the following letter

from
Surgeon G. Bidie, M.B.

Here enters 3 August 1868
(printed separately)

Order thereon No 837 of 19 June/69

will

The foregoing is the
report submitted by Sur-
geon George Bidie M.B.
and contains the result
of the investigation which
he was deputed to make
into ^{the injury caused by} the ravages of the
Borer insect, to the Coffee
trees in Mysore Coorg and
the Wynad.

2 In order to prevent
further climatic deterio-
ration by forest clearance
in

515 Apt
27 June
1869

in situations not suited
for coffee culture, to regulate
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interests of the rice cultura-
-tion, and to maintain
the fertility of the coffee
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of his report suggests that
"in future when applica-
-tion is made for coffee
land, the Chief Revenue
Officer and Executive Engineer
of the District, along with
the Conservator of Forests,
should inspect the blocks
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for the purpose"; and at
page 29 he lays down
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the

25
the situations in which
he considers now existing
forest should be preserved
3. The Government
admit the importance
of placing all possible
restrictions on indiscriminate
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refer Mr. Bidie's suggestions
for the opinions of the
Board of Revenue and
Conservator of Forests.
4. Fifty copies of the
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21
The Accountant General
is requested to report what
the future cost of Dr. Bidie's
~~investigation~~ has been;
and the Government considers
that the time spent by
Dr. Bidie in the territories
of Mysore, Coorg and
Madrass respectively would
be the fairest principle
decision to adopt in
apportioning the cost among
the three Governments.
The Government
have perused with much
interest Dr. Bidie's able
and exhaustive report,
and request that gentle-
man to accept their
best thanks for it and
for the labour which
he

he has expended in the
investigation.

To General G. Bidie, M.A.
- Board of Revenue
- Conservator of Forests, *deposited 23/6*
- Secy to General.
- Revenue Department. *Min. Secy to Govt. 18th deposed 23/6*

Gort. of 1867 Madras.

Public

To

Thos. G. Bidie. M. B.
Sec.

Dated

June 19 } 1869, No. 837

Recd

Nos. 119-120.

Passing orders on Dr
Bidie's report on the
ravages of the Borer
insect.