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# Revenue (1897) Department.

PRESS SERIES.

G.O., No. 674-74A

DATED 5th August 1897.

[Despatch Abstract.]

*Prickley-pear.*

Stating, with remarks, the Govt has read with interest the report submitted by Dr Bourne on the subject of the experiments conducted by him for the destruction of — by means of the cochineal and other insects and approving his proposal to make further observations and experiments in the same direction.

## BACK PAPERS.

| G.O. | No. | Department. | Date. | G.O. | No. | Department. | Date. |
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| | | | | | | | |

## FURTHER PAPERS.

| ~~G.O.~~ | No. | Department. | Date. | G.O. | No. | Department. | Date. |
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~~Local & Muni.~~ Revenue. (1897) Department.

CURRENT No.

GOVERNMENT OF MADRAS
41 SEP 97
REVENUE DEPARTMENT

From The Sanitary Commissioner for Madras.

~~Order.~~ List

No. 1767/S

3/9/97
Loose
Wls 3/9/97

Dated 31st August 1897.

Received

Registered

Enclosures one

Spare copies

Note for the Despr.
Please have this stitched with the original of G.O. 674 5-8-97
Wls

BMD 4/9/97

SUBJECT.

Forwarding a copy of the extract from the Madras Quarterly Journal of Medical Science on the destruction of Prickly Pear by cochineal.

Mun 4/9

## BACK PAPERS.

| G.O. | No. | Department. | Date. |
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## FURTHER PAPERS.

| G.O. | No. | Department. | Date. |
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EXTRACT FROM MADRAS QUARTERLY JOURNAL OF MEDICAL SCIENCE, VOL. VII.

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THE PRICKLY-PEAR.

The following correspondence about an insect, which is said to destroy prickly-pear will be read with interest; but we confess that all attempts of this kind to eradicate this serious nuisance appear to us to be little calculated to be successful. The extent to which this noxious plant has been allowed to overrun Madras is perfectly disgraceful, and we hope that active measures will be soon adopted to destroy it altogether:—

To

The Acting Secretary to Government, Bombay,
Judicial Department.

SIR,

In reply to your letter No. 3969 of November 29th, 1862, I have the honour to inform you that the insect on the piece of "prickly-pear" sent with your letter, is a species of coccus, a genus which produces lac-lake, kermes, cochineal, &c., &c.

2. I presume this to be the insect referred to by those reporting the destruction of the "prickly-pear" by insects.

3. I am not aware of the destruction of the "prickly-pear," on any scale by this or any other insect, but in the economy of nature the insect world is employed to restrict the exuberance of vegetation.

4. But if any particular insect preys on the "prickly-pear," its range in the Deccan is no doubt, co-extensive with that of the plant and has been fixed by Nature. No human agency is likely to modify it in any degree, and I could not hold out any hope that the spread of prickly-pear jungles could be checked by any attempts to artificially stimulate the development of any such insect.

5. The insect on the piece of prickly-pear under report bears the closest resemblance to the cochineal coccus, and yields a beautiful dye to water. It would be interesting, perhaps, to make enquiries in regard to it, with reference to this fact; although with such quantities of lac-lake as India affords, it is not very probable that it would ever be profitable to farm the "prickly-pear" for its dye.

I have, &c.,

(Signed) G. C. M. BIRDWOOD,
*Secretary to the Government Central Museum.*

TOWN HALL,
*1st December 1862.*

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No. 2.

To

W. H. HAVELOCK, ESQ.,
Acting Secretary to Government,
Bombay.

SIR,

With reference to the correspondence forwarded with your letter No. 3669 of 29th ultimo, concerning the insect said to destroy prickly-pear, I have the honour to state that the supply, which was forwarded to Belgaum, reached that place a few days after I gave over charge to Mr. Gordon, and was brought to me.

2. I opened the basket as the man who carried it said it contained some wonderful insect; and, perceiving at once that it was a species of cochineal, sent it on to Mr. Gordon without opening the letter which accompanied, imagining that the insect had been sent to prove the existence of cochineal in the district whence it came, or with a view to its introduction at Belgaum.

3. No one who has seen the real cochineal alive could doubt, for a moment, the nature of this insect; to make sure, I squeezed one; when the juice which exuded was, instead of a dirty brown as described in the correspondence, a very rich, though dark, crimson.

4. I cannot say whether the insect is of that fine variety known in America as "grana verâ," the exportation of which was at one time punishable with death. It is probably not, as I believe that description of insect to the improved result of careful attention for many generations; but if it be only the ordinary wild variety, its being indigenous in this country (a fact, I fancy, not formerly known) gives promise of its turning out a valuable article of commerce, if skilfully treated.

5. I was under the impression hitherto that cochineal would not live on the prickly-pear, but required its own peculiar cactus. In the correspondence above alluded to, I observe the curious fact stated, that the insect is said to destroy only one specie of prickly-pear (the male) and to avoid the female. I never heard of this distinction between the male and female prickly-pear before, and doubt its existence. Is it possible that the real cochineal cactus is found growing with the prickly-pear, and that the insect selects its natural food, rejecting that which is unsuited to it? But, in that case, why should it kill the plant? I was not aware that it did so in the plant. I was not aware that it did so in the cochineal plantations in America, and have no work at hand which touches on the subject; but it may prove to be the case: or can the solution of the difficulty be this, that the insect feeds on both cacti, but does not injure that which is its natural habitant, while it destroys the prickly-pear? Government will perhaps consider these points worthy of further inquiry.

6. My First Assistant, Mr. Elphinstone, to whom I circulated the correspondence, has ascertained that the insect is not unknown here; as a few years ago it was the means of totally destroying, in a very short time, the prickly-pear at Sawanoor, which the late Nawab had for many years in vain attempted to get rid of. It is no longer, I regret, to be found there, as its work is done; but in the hope that it may yet linger somewhere in the Collectorate, I have ordered careful search to be made; which failing, I will endeavour to procure some from the Nizam's Territory.

7. The benefit to be derived from it, as a prickly-pear exterminator alone, is incalculable. The fort in which I am writing is surrounded by dense masses of this poisonous nuisance, which an expenditure of thousands of rupees, would be inadequate to remove by the ordinary process.

I have, &c.,

(Signed) L. H. B. TUCKER,
*Magistrate of Dharwar.*

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No. 5.

*Extract of a letter from the Deputy Inspector-General of Hospitals, Ceded Districts, to the Deputy Assistant Quartermaster-General, Ceded Districts, No. 72, dated Bellary, 10th September 1863.*

"The (prickly-pear) insects were sent to Bellary from Lingasoogoor in baskest carried by a cavady cooly, and, I believe, arrived in a perfectly good state, and I would suggest that the same mode of conveyance should be adopted if the insects are to be sent through, or from, this station, as far as Tripatoor, and there the cooly with his load to take rail to Madras, or which would be a much more rapid mode of conveyance, and I would deem equally secure as regards the insects, that the basket should be sent by the mail cart to Tripatoor and thence by rail to Madras, several baskets in succession might thus be conveyed.



Some authority at Bangalore and Tripatoor being communicated with in regard to safe custody and further transmission of the loads."

(True Extract.)

(Signed) N. A. RIACH, Captain,
*Dy. Quartermaster-General,*
*Central Division.*

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No. 6.

MILITARY DEPARTMENT.

*Proceedings of the Madras Government.*

*Read*—the following papers:—

From the Quartermaster-General, Head-quarters, Bangalore, 31st July 1863, No. $\frac{73}{0285}$, to the Secretary to Government, Military Department.

I have the honour, by desire of His Excellency the Commander-in-chief, to report that, on the receipt of Order of Government, No. 387, dated 8th November 1862, copies of the order were sent to the Officers Commanding the Hyderabad Subsidiary Force and Bellary, with instructions to obtain some leaves of the prickly-pear with the insects' nest thereon, and to give the experiment a fair trial, reporting the result to this department.

2. The Officer Commanding Bellary reports that the experiment failed, and that no vestige of the insect can now be seen. The Deputy Inspector-General of Hospitals, Ceded Districts, however, considers it advisable that the experiment should be tried once more, after the rains, and that a second supply should be then sent for.

No. 248, dated 30th June 1863.

3. The report from the Officer Commanding Hyderabad Subsidiary Force is most satisfactory, and I am desired to submit it in full for the information of Government.

4. The Commander-in-chief would now recommend that the experiment be again tried at Bellary, and that an endeavour be also made to transport a supply of the insect to Kurnool, Cuddapah, and especially to Palaveram.

5. A successful result to the experiment at the latter station would save a large expenditure, otherwise to be incurred in the destruction of the plant.

6. If Government approve of the proposal, Dr. Hunter will be consulted as to the best means of transporting the leaves with the insects on them from Secunderabad to Palaveram.

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From the Officer Commanding Hyderabad Subsidiary Force, Head-quarters, Secunderabad, 30th June 1863, No. 248, to the Quartermaster-General, Bangalore.

Agreeably to instructions conveyed in Memorandum No. 8999, dated 19th November 1862, appended to Proceedings of Madras Government, No. 3857, dated 8th November 1862, I have the honour to report that, on 25th December 1862, three small pieces of the prickly-pear having the insect thereon were received from the Resident, Hyderabad.

2. On the 27th of the same month, these branches were placed among some growing healthy prickly-pear, the preparation described in paragraph 4 having been first sprinkled thereon.

3. At first, apparently from the prickly-pear being of the female or fruit and flower bearing species, the insect did not seem to take effect. This continued for about two months, during which time it was carefully watched. Since then

the effect has been very great. The insect has spread and taken possession of patches of prickly-pear in every direction, the whole of which is evidently being destroyed.

4. The result I consider most satisfactory, and I am adopting measures for having the prickly-pear, with the insect thereon, distributed in every direction where prickly-pear is found growing, and I hope by the end of the year to be able to report further success.

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ORDER—dated 11th August 1863, No. 2771.

The Governor in Council approves of the measures proposed in paragraph 4 of the foregoing letter.

(True Extract.)

(Signed) R. HAMILTON, Lieut.-Col.,
*Deputy Secretary to Government.*

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No. 7.

MILITARY DEPARTMENT.

*Proceedings of the Madras Government.*

*Read*—the following papers :—

From Lieutenant-Colonel J. G. Balmain, Royal Artillery, and Officiating Commissioner, Chutteesgurh Division, Raipore, 20th October 1862, to the Secretary to Government, Military Department, Fort St. George.

Having observed in the Bombay Government Gazette of 7th August 1862, page 281, that it was considered a desideratum to eradicate the prickly-pear, I addressed the Secretary relative to what had occurred in the Raichore Doab, when I was Deputy Commissioner of it some years ago—the inquiries resulted in a letter of which I have now the honour to enclose a copy, in case it should be deemed expedient by the Government of Madras to get rid of the noxious prickly-pear, which, it strikes me, I have seen overabundant in many of the stations and villages of the latter Presidency.

---

From Rustomjee Viccajee, Talookdar, Raichore Doab, Lingsoogoor, 7th October 1862, to the Collector, Belgaum.

With reference to the Resolution of the Government of Bombay, dated 17th September last, and forwarded by you, I have the honour to state that I yesterday sent to you, in charge of a Chuprasse and a Shetsundee, a basket containing several pieces of prickly-pear on which you will observe that the insects alluded to by Colonel J. G. Balmain, Officiating Commissioner, Central Provinces, have made their nests and laid their eggs.

2. The nests have the appearance at a distance of some common salt having collected on the leaf, but on a closer inspection and by touching, it will be observed that this white accumulation is of a soft spongy nature. This is the nest in which the eggs are deposited, and the insect itself is encased in a kind of white film, which, if you endeavour to remove, kills the insect, as nothing on the inside is found but a small quantity of thick dark brown fluid, evidently produced by the destruction of the insect.

3. Some years ago, Kanageeree was overrun by prickly-pear, when suddenly this strange insect made its appearance, which in a short time entirely annihilated this troublesome plant. Portions of the pear with insects on it were afterwards sent to the surrounding villages, where prickly-pear abounded, and in every case it had the desired effect on the male species of the shrub. I should here remark



that I am given to understand there is a slight difference in the prickly-pears. The natives call one male and the other female. The male never bears flower, and the female occasionally has a pink blossom. It is a remarkable fact that though the insects at once annihilate the male species, they are very loath to attack the female.

4. The method adopted for the transmigration of these insects is the following :—

Portions of the prickly-pear should be selected whereon these insects have made their nests—these pieces should be transmitted in a basket, carefully placed, so that there should be no pressure on the nests. Wherever it is desired that this insect should locate itself, one tree of the prickly-pear should be selected, over which the infusion * should be sprinkled, and then the leaf on which the insects' nest is, should be placed at once on the tree. This process induces the insect to take possession of the fresh tree, and when once it has located itself, it will destroy all other prickly-pear in the vicinity. It is not necessary that the infusion should be sprinkled over more than one tree.

5. After the insects have been placed on the tree for about 14 days, it will be observed that the white accumulations or nests are rapidly spreading over all the trees adjoining; and in about another 14 days, the branches will begin to fall to the ground, where they of course rot; and in about four or six months the whole jungle of prickly-pear will have disappeared. These insects not only entirely destroy the tree and its branches, but seem likewise to poison the roots, as they never shoot up again.

6. Any further information that you may require on the subject, it will afford me much pleasure to furnish.

---

*Order No. 3857, 8th November 1862.*

Ordered that the acknowledgments of Government be conveyed to Lieutenant-Colonel Balmain for the information contained in the foregoing letter, which will be communicated to the Departments of Public Works and Quartermaster-General and laid on the editors' table.

(True Extract.)

(Signed) H. MARSHALL, Colonel,
*Secretary to Government.*

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No. 8.

From ALEX. HUNTER, ESQ., M.D.,
Honorary Secretary, Agri.-Horticultural Society.

SIR,

In reply to your letter of the 13th instant, accompanied by letter No. 352, from Colonel J. T. Grant, Brigadier Commanding Hyderabad Subsidiary Force, and memorandum from Acting Assistant Quartermaster-General, on the subject of the transfer of the prickly-pear plant with the insect which destroyed it, I am of opinion that the suggestions offered by Major Mainwaring regarding the mode of distributing the insect are very practical and likely to succeed at this season of the year, if the instructions be carefully attended to. The points of greatest importance are that both the insects and the plants shall have a good supply of air, and that they be transferred from one station to another as quickly as possible, avoiding the hot season of the year.

The letter and memorandum referred to are herewith returned.

---

* Two seers of jowarree should be thrown into a gallon of water and allowed to stand for two days, the jowarree should be then thrown away and the water kept, to which an equal quantity of whey must be added. *Jowarree sojee* with a little salt should then be gradually mixed with the above liquid, till it becomes the consistence of *very thin* paste.

No. 9.

*Extract.*

* * * * *

"I. It appears to me that the prickly-pear might be sent at this time of the year.

"II. It should be packed in an open work basket placed as follows:—

"*1st*, One layer of fresh prickly-pear. This should be kept from moving by tapes passed across the basket.

"*2nd*. Over this a layer of the prickly-pear which is well inoculated with the insect.

"*3rd*. Over this another layer of the prickly-pear supported and kept in its place by tapes passed over and under it.

"III. The object of putting the fresh prickly-pear is to provide food for the insect and to enable it to spread thereon.

"IV. A basket packed as above described was kept in my house for nine days, and at the end of that period opened, when it was found that the insect not only preserved its vitality, but has spread all over the fresh branch.

"V. The experiment seems most successful. I would, therefore, suggest that the prickly-pear with insect on it be sent in baskets as above by banghy."

(Signed) J. MAINWARING, Major,
*Ag. Asst. Quartermaster-General,*
*Hyderabad Subsidiary Force.*

2,250—1-1-97.

OFFICE OF SANITARY COMMISSIONER,
*Fort St. George,* 31st August 1897.

No. 1767/S

From

SURGEON-LIEUT.-COL. W. G. KING, M.B., C.M., D.P.H.,
SANITARY COMMISSIONER FOR MADRAS,

To

THE
Secretary to Government,
Revenue Department,
Ootacamund.

Enclosure.

SIR,

With reference to the concluding sentence of para 2 of G O No 674 Revenue dated 5th August 1897, I have the honor to forward herewith a copy of the extract from the Madras Quarterly Journal of Medical science on the destruction of Prickly-pear by Cochineal.

I have the honor to be,
Sir,
Your most obedient servant,
W G King.
Surg Lieut Col
Sanitary Commissioner for Madras

2

# Local & Munl. (1897) Department.

CURRENT No. 1741 L

SECY. GOVT. MADRAS
23 JUL 97
REV. DEPT.

From
The Sanitary Commissioner
for Madras.

~~Order~~ No 766 dated 19th July 1897.

Transferred to the Revenue Department.

Secretary to Government

V.R. 15/7/97

No. 1334/S

Dated 2nd July 1897.

Received 2 JUL. 1897

Registered

Enclosures 2

Spare copies.

## SUBJECT.

Forwards with remarks for information of Government extract from the Madras Quarterly Journal of medical science for 1863, regarding Prickly pear.

## BACK PAPERS.

| G.O. | No. | Department. | Date. |
|---|---|---|---|
| " | 271 | Revenue | 28-5-97 |

## FURTHER PAPERS.

| G.O. | No. | Department. | Date. |
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| | | | |



2,250—1-1-97.

No. 1334 / S

OFFICE OF SANITARY COMMISSIONER,

*Fort St. George,* 2nd July 1897.

From

SURGEON-LIEUT.-COL. W. G. KING, M.B., C.M., D.P.H.,

SANITARY COMMISSIONER FOR MADRAS.

To

THE *Secretary to Government*
*Local & Municipal Deptt*

LOCAL & MUNICIPAL DEPT.
CURRENT No. 1741

Enclosure.

SIR,

With reference to G.O. No. 2711 Revenue* dated 28th May 1897, Revenue Department, I have the honour to forward herewith a reprint of matter found by me in the Madras Quarterly Journal of Medical Science for 1863. It seems to me that not only does the information thus brought to light afford evidence as to my original assertion in regard to the Cochineal insect being of utility, but that it would be acceptable to Dr Watts and Dr Bonne in connection with the investigation which they have been invited to undertake by Government. I would therefore respectfully suggest that Government might communicate the record to the Officer

* Forwarded with endorsement No. 666 dated 12th June 1897 L & M.

officers concerned. There should also be available in the Government Records the correspondence which led to it being suggested if not effected some years back that Cochineal should be imported from Algiers.

I have the honor to be
Sir
Your most obedt humble Servt
W. R. Nisbet
Supdt Lieut Col.
Sanitary Commissioner
for Madras

4

# Revenue (1897) Department.

**CURRENT No.**

RECEIVED GOVT. MADRAS
27 JUL 97
REV. DEPT.

***From***

*A. G. Bourne Esqr. C. I. E. M.R.A.S.*
*Asst Superintendent*
*Govt Museums.*

***Order***

**No.**

***Dated*** *26 July 1897*
***Received***
***Registered***
***Enclosures*** *(One)*
***Spare copies***

**SUBJECT.**

*Submitting some remarks upon the practicability of destroying prickly pear by means of the Cochineal insect or other parasites.*

Zuni 31/7/97

## BACK PAPERS.

| G.O. | No. | Department. | Date. |
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## FURTHER PAPERS.

| G.O. | No. | Department. | Date. |
|---|---|---|---|
| | | | |

No.

GOVERNMENT MUSEUM,
Pantheon Road, Egmore,
*Madras*, 26 July 1897.

From

~~EDGAR THURSTON, Esq.~~, T. G. Bourne Esq M.R.A.S.
Ag. SUPERINTENDENT,
*Government Museum*,
*Madras*,

To

The Secretary to Government
Revenue Department

SIR,

With reference to G.O. No. 3767 Misc., Dated 21st September 1896 I have the honour to submit some remarks upon the practicability of destroying prickly pear by means of the Cochineal insect or other parasites,

I have the honour to be
Sir
Your most obedient servant

A. G. Bourne

F/6 200—4-3-96.

## Destruction of Prickly Pear with the aid of the Cochineal Insect or other Parasite.

W. Experiments. As soon as I had undertaken to investigate this matter I selected a clump of the ordinary yellow flowered prickly pear (Opuntia dillenii) growing in the Museum grounds and also procured from the Agri-Horticultural Society's Gardens plants of the red flowered species (O. cochinellifera) and of three other species (O. decumana, O. monacantha and O. spinosissima).

I then examined the insects sent to the Superintendent of the Government Museum with the Proceedings of the Board of Revenue No. 3844 Mis. Dated 4 August, 1896 and satisfied myself that these were Cochineal insects of the so-called "Wild" variety (Coccus cacti, var. Grana Sylvestris) I procured a fresh supply of these from Ganjam and thanks to my instructions with regard to the packing having been most carefully

carried out and to the fact that it happened to be the most suitable time for the transfer they reached me alive and I was able to experiment with them. The time for the transfer was the most suitable because the young insects were just ready to be hatched and it is only just after hatching that they will migrate from one leaf to another and so from one plant to another - they very soon fix themselves and the females at any rate never move again. I might have had supplies month after month without securing this exact stage.

By carefully attaching portions of the leaves bearing pregnant mothers to my own plants I got the young to migrate and many fixed themselves on all my species of cactus.

The specimens sent were all attached to the red-flowered cactus although some leaves of the yellow-flowered species were also packed in the basket.

The ~~specimens~~ insects which attached themselves to my clumps of yellow flowered cactus

Exposed to the sun died within a week and the rain removed all traces of them Those on the same species which I had growing in a pot and shaded from the full sun lived considerably longer but the only ones which lived for any length of time - 4 months - were those on the red flowered species (O. cochinellifera) They all ultimately died and disappeared and although I still watch the plants there is no trace of their reappearance nor does our knowledge of the life history lead me to expect that there ever will be. I failed therefore to rear the Cochineal insects in Madras but had this been my object, knowing that it has been done before, I should have tried again taking even greater precautions to protect the young insects. The present object is however to destroy the prickly pears and it is obvious that if tried on a large scale the experiment could not be accompanied by any special precautions for the protection of the insects.

2. Historical resumé. The historical evidence bears entirely against the practicability of destroying prickly pear by the Cochineal insect. The literature of the subject is very voluminous I propose to give here a very brief resumé only.

There seems to be no doubt but that the Cochineal insects and the cactuses are all introductions and the net result has been that the yellow flowered cactus has thoroughly naturalised itself while the Cochineal insect has just managed to struggle on here and there.

There is evidence that Cochineal insects were introduced 5 times between 1795 and 1883 with a view to the establishment of the Cochineal industry in the Country. In 1807 Government offered a reward of £2000 for its successful introduction. It never became thoroughly established. It has however possible that although a fine variety of the insect ~~[illegible]~~ best for industrial purposes would not flourish that a wilder variety might become more or less naturalised, this has occurred to a small extent and the

idea of utilizing this to destroy prickly pear has been from time to time put forward.

From 1862 to 1868 repeated experiments appear to have been made on a large scale at Raichur, Ahtur, Palmanair, Madras, Bellary, Secunderabad, Palaveram and other places in some cases with a certain measure of success. This partial success is in itself I consider a strong argument against the utility of repeating the experiments. They obviously ultimately failed as the prickly pear has not been eradicated in those localities and were evidently after a time abandoned. It is, on the other hand clear that during the experiments the insects were widely distributed and the reports of success in some places show that it took a thorough hold only to die out in time while the prickly pear must soon have sprung up again.

3 Remarks on other parasites. I have only up to now been able to find one other parasite attacking prickly pear this is a Mycelial growth which is reported to have

Caused great damage to a prickly pear
hedge at a salt factory in the Nellore District.
I secured specimens and found the disease
to be a mycelial growth which by gradually
indurating the epidermis and blocking the
stomata caused the whole substance of the
leaf to rot - I preserved the specimens and
watched their gradual decay and found that
after this was complete and the leaves had
dried up they began to sprout and put
forth healthy young leaves - This is an
instance of the extraordinary vitality of the
plant. I endeavoured but unsuccessfully
to infect a clump of prickly pear in the
museum Compound with this disease which
leads me to think that unfavourable
conditions in the soil or climate must have
favoured its spread on the spot.

4 Conclusion. I shall continue to
observe and experiment in regard to this
matter as opportunity offers - I am hoping
to visit Panjam on a botanical tour
in December - January and shall then
examine the Cocous on the spot where
alone it appears to have persisted in any
quantity but my present opinion is that it

is impracticable to destroy prickly pear in the manner suggested. Even if it appeared practicable I should doubt the advisibility of the attempt. The Coccus belongs to an Extremely obnoxious Group of insects - the plant bugs - and supposing a wild variety were to spread all over the Country and to have Eaten up all the Prickly pear I think it is possible - I cannot say probable - that it or some species which might have spread with it, would turn to some other plant for food and become an infinitely greater pest than the Prickly pear.
This argument applies with great force to a mycelial Fungoth or other parasite which might prove less selective with regard to its food than the Cochineal insect has

A. G. Bourne

Professor of Biology
Presidency College

26 July 1897

Seen

D.o. 29/5/97

Draft DO

My dear Bourne,

Please see the correspondence ending with Davidson's D.O. to you of the 7th inst: last and let me know what action you are taking in the matter of the reference made to you to ascertain if possible the practicability of destroying prickly pear by means of the Cochineal insect or other parasites.

I notice that you have not yet sent a direct reply to Mr Arundel's D.O. on the subject (dy 21-9-96) enquiring whether you would be willing to undertake the work. If you have anything definite to say now, would you kindly submit it officially (~~for~~ ~~submission~~) to Govt quoting G.O. No 3767 mine dy 21st Sept 1896 in your reply and also D.O. of the correspondence that has passed ~~between~~

28/5/97 27/5/97

To Dr A.C. Bourne Offg Supt. P.C.M.

The Secy has not initialled the draft DO.

26.5.97 27/5/97