

C.S.

MEDICAL
(Board of Health).

1927.

No.

57/27

Crown Agents.

SUBJECT.

1927.

4th Janry.

MEASURES TO COMBAT PEST OF THE BLOW FLY.

Previous Paper.

Proposed introduction of parasite
Alysia Manducator.

716/22. 717/22.

MINUTES.

- 1-9 Despatch from Secretary of State No 141 of 30 Dec, 1926
- 5-12 Letter from Crown Agents, 1th January, 1927.
- 13. Original Shipping Advice, 6 Jan. 1927.

Excerpted
to M.P.
89/27.

Mr. S. B. ... The fly-traps etc have been received
at ... understand that Mr. ... has the parasitical
preparation at Fort St. ...

3. There are three main headings under

Such consideration is called for in the first
place

(1) The use of the fly-traps etc. at

Fort St. ... at ... there;

(2) The cost of breeding of the
parasites;

Subsequent Paper.

Excerpted
to M.P. 91/27

and (iii) the introduction of measures to combat the blight in all animal stables e.g. the destruction of carcasses on the Common.

3. The latter question is rather one for the detailed investigation of the Board of Health but you may wish to give the observations of the Mr. Surgeon Member in the first place, as also on the two former questions.

Excerpted to M.P. 9/1/27.

7.2.27.

J.M.D.

* In this connection it is perhaps unfortunate that neither the full Report nor the full Report are immediately available.

J.M.D. 7/2

H.C.D.
Please refer to Hon. Colonial Surgeon, and request him to see me with these papers at 11.30 am on Thursday 10th with

Excerpted to M.P. 9/1/27

J.D.
8 Feb. 1927

Hon. Col. Surgen

Accordingly, please.

[Signature]

G. G. Lee

8. 2. 27

Excerpted to
M.P. 9/1/27.

Hon. Col. Secretary.

I have spoken to His Excellency and explained that I have no information as to the modus operandi in dealing with the parasite *Alysia rauducator* but will be glad to be furnished with any information on the subject, and will do all that is in my power. The report furnished by the Government Naturalist and myself on 27/10/22 if put into operation would deal effectually with this pest, which I am pleased to say have not been as bad this summer. The ashpits that are the principal breeding ground for these pests are if anything worse at the Government Quarters than in the private houses.

[Signature]

Colonial Surgeon.
16/2/27.

y. 2 Schmitt. Treatment of the parasitised
Physic Manducator is fully described in vol

3-1 herein.

2. The Report of 27. 10. 22 to Chief
Hon. Col. Sanger refers is filed in M.F. 717/22
attached. It was referred to Hon. Col. Sanger
as President of the Board of Health on 7. 11. 22
but there is no record to show the action
thereon taken by the Board. Hon. Col. Sanger
should be asked to say what action was
taken or, if possible, to refer me to the
subsequent correspondence which may be filed
otherwise in this office?

3. If Hon. Col. Sanger wishes to apply
that among other the airport at Salsman
Home, my official residence, requires attention, he
is certainly correct as since he kindly called
my attention a short while ago to its
condition I have been intending to take the

Excerpted
to M.F.

91/27.

Spoke Col. G.
14.2.27.
J.P.

matter up with the Colonial Surgeon
I will do so forthwith; at the same
time it might be well if the
Col. Surgeon in his capacity as President
of the Board of Health would submit a
report on the condition of the hospitals at
other branch buildings at Singapore.

Excerpted to
M.P. 9/1/27.

J.P.

H.C.

16.2.27

1. At his interview with me on 10th inst.
Hon. Colonial Surgeon explained to me that
the information available in nos 1 to 3 was
insufficient to enable him to deal with the
matter. He thought that the impending publication
referred to in para. 9 of no 5 might provide
more detailed information.

2. I propose to endeavour to enlist the
services of one of the steamer boats on the
"William Scoresby", when she arrives here next
week. It should be brought forward in this
connection then.

3. Hon. Colonial Surgeon should report as
proposed in your para. 2, and proceed as
suggested in your para. 3.

Excerpted to
M.P. 9/1/27.

4. Have the fly traps arrived? I think
that we had better open a new deal
regarding them, or confine this to that subject
opening a new page
regarding Algeria.

17 Feb. 1927

Vote H.P. 89/27
85.

y.p. Schmed. H.P. 89/27 has been opened
to deal with the fly traps which have
arrived.

2. 'Oillian Security' is expected to reach
Hercy tomorrow the 23rd February at 1 long forward
Re H.P. as directed.

Jul
—

23. 2. 27

Spoke H.P. 23. 2. 27

~~XXXXXXXXXXXXXXXXXXXX~~

Officer-in-Charge Scientific Staff

R.R.S. "Oillian Security"

(N.G. Mechanical Dept. A.S. M.C.S.)

At His Excellency's direction

I send you to your consideration this

Inside Minute Paper.

file dealing with the proposed introduction
of the parasite of the blow-fly Physia
manulacator. In the chance with the
"Discovery" expedition of the post. Naturalist
at of W. A. J. Bennett at Joll
I believe any assistance that you are in
a position to give in this connection will
be much appreciated.

J. W. L.
G. W. L.

25-2-27.

Spoke W. Mackintosh. In the chance
of more precise instructions W. Mackintosh
being a Zoologist at an Entomologist could
not be certain of the best course to
adopt in dealing with these parasites.
In company with W. Mackintosh inspected

pared at blood parasitoid paper in Jan Jan
in Laboratory Office. I understood Chief Counsel to
obtain a copy of report in relation spirit trading
out of Physics.

While Mr. [unclear] the respectful reference to Mr. W.A.P.
[unclear] the letter the letter expressed his interest
and attention to assist & prosecute.

Yours
7. 3. 27.

John W.A.P. [unclear]

In connection of our conversation
of yesterday evening I send you this P.P. to
[unclear]. Re parasitoid paper as at present
in the [unclear] Laboratory Office.

2 I shall be grateful for any assistance
that you may be able to afford in this
connection.

Yours
W.A.P.

Hon. Col Secy.

P. 3, 27.

Perused with thanks. I shall be only too glad
to give any assistance when the Alysia emerge.

W.A.P. [unclear]

8/3/27

Y. 2. Schultze. Re "Alpine Meadowbeetle" are at present in glass jars in the Naturalists' office under observation against their emerging from the parasitized ~~parasitized~~ pupae of the Chalcids.

Y. 2

Hel.

9.3.27

I inspected the parasites in the Naturalists' office with you to-day, and will await developments with interest.

2. I fully appreciate the offer of assistance from the Hon. H. R. Freshman who is an enthusiastic amateur entomologist.

10. Copy of R. from Imperial Bureau of Entomology and January, 1927.

Y 28.3.27
 L 18.3.27
 Y 18.3.27
 L 18.3.27

Spoke W. Mackintosh

Y 2.4.27
 L 28.3.27
 Y 12.4.27
 L 2.4.27

4
16. 4. 27
Le ~~16. 4. 27~~

19. 4. 27
~~18.~~
Le 16. 4. 27

27. 4. 27
Le 20. 4. 27

Letter from Director Imperial Bureau of Entomology, 5th July, 1927

Prof. Erichson has asked for this paper in connection with interview with Mr N. A. Makintosh to day.

Ch. G.
O/S/C
30 July 1927

Ch. G. Let.

I have inspected the parasitized pupae received by "Ordure" on 2. 2. 27 in company with Mr. Mackintosh. There is still no sign of development.

2. Mr Mackintosh will send in a further report in the course of the next day or so when a reply shall go to him 10 at 11.

3. Re 660 parasitized papers referred to
in vol 10 have been received, inspected,
and placed in glass jars in the bacteriology
office to await developments.

4. They appeared to be in a healthy condition.

5. Please b.f. 5.5.27.

JWS
30.4.27

12. Report from M. A. Mackintosh of 1. May 1927.

G.E.
Submitted.

G.H.B.
O/S/C.S.O.
4th May 1927.

Off'l. Sect.

Letter to the Director of the Imperial Bureau
of Pathology herewith for filing and for your
signature.

2. Please draw the attention of the
Chief Clerk in some immediate charge the
parasitized papers are at present to the

forms of para 6 of sub 9 11. That the moss is
short the preservative on being kept should not be
excessively damp. No immediate action on this point
is called for but he should be careful when
monitoring the preservative in accordance with my verbal
instructions not to use too much water. On the
last occasion on which I inspected them they seemed
to me to be rather wet.

3. This P.P. should be returned to me in
due course when I will prepare the draft of an
article with you to sub 9.

J.M.

4. 5. 27.

Letter to Director
Imperial Bureau of Entomology & Natural History (NH) 13-14
10th May 1927

Letter to Mr. N.A. Mackintosh, 9th May 1927 15
Chief Constable

So with further reference to
para 2 of my memo of 10th May 1927

J.P. Brown.

D/E sec

9th May 1927.

Hon Col Lect

noted
J.P.

20 May 1927

Y.B.
Paper returned as directed.
S.K.H.
Officer
20 May 1927

Off. H. Sect.

Draft despatch permitted for filing -

Y.B.

29. 5. 27.

16-23. Despatch to S. of S. no. 91 of 1/4/27.
24. Letter from Hon. H.H.R. Gresham. 7 June 1927

Y.B.
Despatch submitted for signature.
S.K.H.
Officer
7 June 1927

Off. H. Sect.

Draft filed.

2. Please ask of. pd. letter about it
New case New parasitised porpae row
ex to average to supply H.H.R. Gresham
with a number of those that
arrived as the second equipment, say,

a dozen to twenty pupae for the examination
at Colby.

W.S.

8.6.27

Acting Government Naturalist.

Accordingly

W.S.

W.S.

8th June 1927

Mr Colby.

Spoken on the subject. I will
send Mr H.H.P. Graham the pupae + a few to
Mr Greenshield. I will send remainder to care
of Chief Constable.

W.S.
8/6/27

Spoke Mr H.H.P. Graham 7.6.27.

G. Colby returned.

In accordance with my verbal
instructions of today's date please arrange
for the storage of the remainder of these
parasitized pupae in the other room

Inside Minute Paper.

in the Police station under the immediate charge of the Chief Constable.

2. The proposal is to endeavour to keep these prisoners in their present state under equal conditions until your return from leave at the commencement of the next summer at the same time.

3. Chief Constable to look

J. J. J.

Asst. Gt. Sec

15.6.27

Hon Col Secy.

Prisoners deposited with Chief Constable as directed 15/6.

I am seeking more information on these files while on leave in London.

I passed to Mr Gresham & Mr Greenshield the small sample 12/6.

A. J. Bennett
as Nat
16.6.27

Chief Constable

to you please

agreed to
ag Nat
16/6/27

Hon^r bot. Sect

noted

25-6-27

f 29. 7. 27
b 29. 6. 27.

Minute from A.C. the Governor. 1/7/27. 25.
Despatch to Sir W. Robertson, 2/7/27. 26-27.
Despatch to S. of S. no. 116 of 2 July, 1927. 28.

f 21. 8. 27
b 4. 7. 27

f 30. 9. 27
b 22. 8. 27.

Letter from Imperial Bureau of Entomology 29-30.
of 13. July 1927

Inside Minute Paper.

Chief Clerk at the
contracted amount?
p. 12. 9. 27

y.e
I shall . I will be the first,
hyper-processed, equipment of these papers
destroyed by fire.

2. However I will make the
necessary preparations against the expected
emergence of Hygie Number towards the
end of October from the paper sent as
the second equipment.

3. I shall have a small box
containing several specimens of Hygie
Number for y.e. to see.

4. I will send a suitable
condensed print in reply to sub 30-29
and will let the A.R.N. know how
developments.

Yard

1. 9. 27

Spoke the A.R.N.

2/3. 9. 27.

p. 2/9

Hon C.S

Please keep me fully informed as to future developments.
I hope that Alysia Manducator will not prove a worse
pest than the Blue-bottle.

L27. A.H.

Letter to Superintendent, Imperial Bureau of Entomology,
2nd Sept. 1927.

31.

~~Y 12. 10. 27.~~ ~~Y 12. 9. 27~~
~~Le 12. 9. 27.~~ ~~Le 8. 9. 27.~~

3rd person note

Respectfully

from H.M.

Ambassador
Hans Egede

Bureau, Office of
8 Sept. 1927.

32-34.

y. 9.

Reh 34, 32 submitted. I will have

a suitable acknowledgment prepared concerning
a reference of y. 9's notes to the
Ambassador's post office in this matter.

Hon C.S

jud
11. 10. 27.

Yes, please send copy to S of S for his
information. Say to the Ambassador how
much I regret having put him to
so much trouble.

A.H.

11.27
10

I think the Blue-bottles must have heard
of the ligands for there is not one to be
seen now in my conservatory!

Inside Minute Paper.

35. Despatch to H.B. in Ambassador,
Prensa Avda, 14 - Oct. 1927.

36-37. Despatch to S. of S. No. 199 of 14/10/27.

y 2.

38-39 Letter from Hon. H.R. Gredam of 7 Nov. 1927.

~~y. 29. 11. 27
L. 9. 11. 27.~~

~~y. 15. 1. 28.
p. 12. 27.~~

40-43. Letter from Imp. Board of Entomology of 10 XI. 27
44-46 *SofS* Despatch No. 113. of 5th Nov. 1927.
This full let.

To see and for report please

Yudha

2. 1. 28.

Hon. Col. Secy

I brought out some 300
Alysia parasitises pupae.
On arrival 22nd Dec 1927
I found them hatching out.

Very few flies & no maggots were then
to be obtained.

On Jan 1st I introduced some nearly
full fed maggots, and have done so daily since.

Today being cold I find that Alysia
will not work in the unwarmed office
temperature. Purely in order to save the
race, I have taken one case with about
100 maggots to my kitchen where operations
started within 10 minutes.

I fear that by the time I have sufficient
maggots the present generation of Alysia
will have gone. Quite a number have
escaped although every effort has been
made to prevent this.

Al Bennett
as Not
3/1/28

G. E. Schmal. Clearly a difficult
at 1st thing, an unnecessary experiment
if it appears to be the case the
parasites will not be destroyed their
hosts are dying we succeed for lack
of hosts in order to deposit

Inside Minute Paper.

Dear Sir

Yours

6.1.28.

For further report in due course

Yours

H. C. S.

Please.

7/28

A.H.

A.7

Despatch to H.B. Mrs. Ambassador, Buenos Aires of 12th Jan. 1928

A.8

Despatch to S.F.S. No. 22 of 12th Jan. 1928

H. C. S.

Thank you. Sent Naturalist to see.

A.H.

10/28

Sent Naturalist

To see

Yours

18.1.28.

Hon Col Secy

Seen. Thank you.

Since my minute of 2/1, much brighter results have been obtained. I have now some hundreds of fly larvae.

As stated in the instructions (42) it is desirable to conduct the experiment out of doors. At present this has not been possible. I fear however that the general summer temperature here is too low for the alysia, for I find that while the flies are usually legathic, the slightest addition of heat produces almost immediate animation. As the west side of the West Falklands is a much warmer spot than Stanley, possibly this area would be the most suitable in which to let go the first lot.

It is worth recording that the 2nd consignment (Jan 1927?) that has been in the Chief Constables keeping, produced one living alysia in early January (after about one year in Stanley.)

A Report will be prepared on the completion of the cycle.

I expect more in the Mail. 3/1

RJ Bennett

20.1.28.

Inside Minute Paper.

y. p. Schmitt. I am not surprised
that the Physic files it had
to raise in our summer. W.
Bennett may proceed generally as
seems to him but it should
in the course furnish a full
report on the completed experiment
and be subject for communication to
the Bureau and to S. J. S.

2. R. S. S. "William Scoville"
might be a suitable opportunity
take and release the Physic on
the part of J. S. The the papers are sent
to the Fair Deal Working at the

Jams.

JMS

24. 1. 28

Hon C.S.

1 April.

25/28.

A.M.

Hg. for Let.

To see.

JMS

25. 1. 28.

Hon Col Secy.

Thank you, seen.

affd Summ^{to}
25/28
25/1/28

4. 8. 2. 28
for 27. 1. 28.

4
6 14. 2. 28
JMS
9. 2. 28

Spoke W. Bennett and inspected the

Alycia menducata 17. 2. 28.

4. 2. 3. 28

6. 17. 2. 28.

Hon: Col: Secy:

49-50.

Spoken. 3 copies of Report to date
on *Alycia menducata* herewith pleaseW. Bennett
29. 2. 192851-57 SofS Despatch No 14 of the 13th January, 1928

Y.E.

Draft despatch submitted.

W.B.

31. 11. 28 A.C.S.

58.

Letter to the Asst. Director, Imp. Bureau of
Entomology of 3rd. 4. 28

59.

Despatch to S.F.Sho 107 of 5th April, 1928

60-61

Despatch to S.F.Sho 110 of 6th April, 1928.

62-63

Report from Ag. Gov. Naturalist, dated 30. 4. 28

64-65.

Lr. to Asst. Director, Imp. Bureau of
Entomology, of 1st May, 1928

66.

Despatch to S.F.Sho 168 of 24th May, 1928

67.

Despatch to S.F.Sho 169 of 24th May, 1928

to Crown Agents of 25th May 1928

68.

of Miscellaneous Despatch of 18th June 1928.

69.

Off^{ce} Sect.

Please look for Feb. 1929 :

Expend. Head XVI Nic. " Cont. to G. B. of E.

.. .. £ 50 "

2. Am. P. at Local Bank

for notes.

3. Please ask Ag. for let. for

& further reports on the present state

of Myia Natchator,

Jud

10.9.28.

Hon. Secy. Treasurers }
Local Auditors } to note.

M.S. for C.S. 11.9.28.

Inside Minute Paper.

Local Auditor

Wanted passed to you

H. Chey
H. Deas,
12/9/28

Hon. Col. Sec.

Noted

A. B. Brown

Local Auditor

12 Sept. 1928

Ap. Govt. Naturalist

Please see H. B.'s minute of
10.9.28 for necessary action.

KS
for C.S. 13.9.28.

Hon Col. Secy.

The Alysia are quite dormant
& have been in this condition since
April last.

A number of Blow flies hatched
out some weeks ago in fine weather,
the cold snap has however killed them.

I do not expect Alysia to appear
before November or December next.

I regret that there is no material
or action on which to base a report

A. B. Bennett
Ap. Nat.
15.9.28

I fully understand

Yours

15.9.28.

70. Letter from Imp Bureau Entomology of 11.7.28

Off. Sec.

Mr Bennett to see sub 70

for necessary action in the course.

2. Please b.f. 15. 11. 28

per 15. 9. 28.

Mr Naturalist

To see for necessary action.

per P.S. 17. 9. 28.

Hon. Col. Secy.

Noted.

I think it unwise to forward more until about March or April next year. Those on land may hatch out at any time, while if sent would arrive in winter.

W Bennett
as Nat
15. 9. 28.

Off. Sec.

Letter in reply to sub 70

herewith for fairing, please.

2. Mr Bennett to see at the

please b.f. 15. 11. 28

per 25. 9. 28.

Letter to the Superintendent, Garham House, Laboratory
 (F 27) 27th September, 1928

Of. Naturalist.

To see

AS for C.S. 27.9.28.

Hon Col. Secy:

See, thank you.

Alycia are at present hatching out in some numbers. This is most unfortunate as no blow-fly larvae can be secured before Xmas next, & the alycia will die long before then.

WRS
 25/9/28
 1.2.28

Off 1/2 Sat.

See: 1 an party

Mr Bennett as witness in

the conviction on Thursday next.

Re 4th inst.

WRS

2.10.28.

142-73.

S. of S. Inise. Despatch of 10th August, 1928.

Off. Sec.

Mr. Bennett to see

at withdraw spare copy of
no Report, please.

[Handwritten initials]

10. 10. 28

As. Govt. Naturalist

To see and withdraw
copy of Report sent herewith.

*A. J. G. is
S. 11/10/28*

Hon. Col. Secy

Seen. Copy of Report withdrawn. Thank you

28/10/28

Minute from Mr. Bennett. 25/1/29

74-75

Letter to H. C. Felton of 10th February 1929

76

Imperial Bureau of Entomology, 10th Feb 1929

77

Resubmit to S. J. Scho. 28 of the 10th Feb 1929

78

Ag. for let.

To see, please

fully.

16. 2. 29,

Hon. Col. Secy;

Seen, thank you. Maps will be sent.

ag. sent to
19/2/29 by Not

16. 4. 29

21. 2. 28

19. Letter to Mr. A.K. Felton of 27.2.29

Ag. for let.

1. Letterhead for W. J.

Felton 4. Feb. 1929 that a

Commitment of paratitred maps

could be obtained at that

Settlement.

2. Please advise as to

the practicability of this being sent
of the present time & mail case
I would refer to Mr. J. S. Patton
on the lines of vol 76.

J. S. Patton

12.3.28.

Hon. Col. Sney.

I shall be pleased to send Mr. J. S. Patton
Great Inlet, a quantity of pupae whenever a
boat may be going there.

A. J. Bennett
of Nat

13.3.29

Letter to the Hon. J. S. Patton, of 15th March, 1929.

80

19. Feb. Nat.

Please see

J. S. Patton

15.3.28

Hon: Col: Secy.

Notes. Thank you

ag/s ag/Not
18/3/29

f 20. 4. 29.

to 19 3 28.

81. R to the Subt. Barnham House Laboratory of 9th April, 1929.

1/5. for det.

Please see

July

9. 4. 28

Hon Col Secy

Noted.

ag/s
18.4.29

5/5/29
18.4.29

Ent. Naturalist.

The consignments of flies has
been sent?

W.H. 13
for C.S.
3. V. 29.

Hon. Col. Secy

Flies sent in charge of Chief
Steward of R.M.S. Brita.

W.H.
ag Nat
8/5/29

Letter from Sup. Bureau of
Entomology

82

Ent. Naturalist.

To see. Have you anything
further to report in this connection?

W.H. 13
Ag C.S.
28. V. 29.

Hon. Col. Secy:

Seen, thank you. All flies are now
dormant & I expect them to remain so
until September. However, anything may
happen, because there has been no autumn
brood, due, I believe, to the very cold summer

W.H. 13
ag Nat
29/5/29.

V. 6. Submitted.

W.H. 13
Ag C.S.
31. V. 29

14th C.S.

Further report in due course.

M.

31.29
5

by f. 21. VII. 29
~~to 31. V. 29~~

836. Copy Circular despatch 24/3/29

G.E.

Drawn despatch to S of S
to Director Entomological Bureau
submitted.

G.E.

Ag. C.S.

10. VI. 29

(M)

Despatch to S of S. no. 137 of 11 June, 1929.
Re. to Director, I. B. of Entomology, 12 June, 1929.

Retromary Officer.

Government Naturalist.

Do you know of any other
subjects of interest to this Colony
which might be placed on
Agenda of Conference?

G.E.

Ag. C.S.

12. VI. 29

Hon. Col. Secy, Tokio, - at present

Jm. 10.
14. VI. 29.

Hon. Col. Secy:

Beyond flies, the colony is extremely poor
in insect life.

Ag. Bennett.
23. VI. 29.
17/6/29.

Y.P.

Report submitted for signature,

Y.P.
Ag. B.
26. VI. 29

(M)

Ag. B. 27. VIII. 29
27. VI. 29

Ag. B. 30. IX. 29
31. VIII. 29
31/10/29

Letter from Imperial Bureau. Entomology 89
11/9/29

Y.P.

Submitted,

Y.P.
Ag. B.
24. X. 29.

M.
24/10/29.

P.A.
20/10/29

Report from Mr. J. Bennett. 14/1/30

90.

Submitted. To send a copy of Mr. Bennett's report to the Director of the Imperial Bureau of Entomology?

Sp. 13
By CS.
17.11.30

Ho. C. 3

Gene. M

(1830)

91. Letter to the Imperial Bureau of Entomology, 20/1/30.

P.H.
21/1/30

92-95. Miscellaneous despatch from S. of S 1/2/30.

Mr A. G. Bennett

To see with reference to attendance at the public sessions of the Conference (para + Red 92) which may interest you.

Sp. 13
By CS.
23.11.30

Hon Col: Secy:

Thank you. If it is the wish of the Government, I could, quite easily attend, ^{and be pleased to do so,} as suggested; as the Conference will be held within three miles of where I shall reside for most of the period spent in England. I am also taking sundry specimens home with me relative to the Alysia experiments.

AJ Bennett
as Nat
24. 4. 30.

Y.E. Submitted. It has ind. been suggested Mr Bennett should attend the public sessions of the Conference but if he wishes to do so your Excellency will submit his name as requested in para 4 of Red 92.

Y.E. 18
for C.S.
25. IV. 30

14th C.S.

Yes. All.
25. 30.
4

Mr A. J. Bennett.

for ind. Y.E. 18
for C.S.
26. IV. 30

Hon C.S:

I shall be pleased to attend to hear any paper or Lecture relating to our own problem:- Alysia = the Blow-fly parasite.

ag Bennett
as met
26.4.30.

Y.E.

Despatch despatch submitted.

G.M.P.
for C.S.
26. IV. 30

96. Despatch to S of S. no. 81 of 27/4/30.

P.A.
29/4/30

97. Letter to the Crown Agents for the Colonies. 6th June, 1930.

M. Trammis

Please note

Muddy
— 5

E. 6. 30.

Hon. Col. Sec.

Noted.

M. Brauer Halber

Trans.

7. 6. 30

P.A. 9/11/30.

Letter from Imperial
Bureau of Entomology. 3/4/30.

(98)

9.2. Noted.

M.S.

10. 6. 30.

M.S.
10.30.
6

P.A. me

11. 6. 30

Good

Letter from Imperial Bureau of Entomology. 2/1/32

P.A.
8/1/35

Copy.

WINDHAM CLUB,

St. James's Square,

S.W.1.

15th December, 1926.

8

Sir,

In a memorandum on the Sheep Farming Industry in the FALKLAND Islands, which was forwarded to you in the early part of 1923, attention was drawn to the necessity for special measures being taken for the reduction of the Bluebottle, which has become a serious pest in the Colony and which has been identified as the European blow-fly CALLIPHORA ERYTHROCEPHALA.

2. The fly is reported to have been introduced and was first observed about 40 years ago. As it is a carrion-eater, local conditions are particularly favourable to its increase. Taking the average death-rate among sheep at the conservative figure of 10% it may be estimated that the annual number of deaths is not less than 60,000, while owing to the large areas of the farms only a very small percentage of the carcasses are discovered; and these, after the removal of the skin, are left to decay. At the present time the fly is found in very large and rapidly increasing numbers throughout the whole Colony.

3. The blow-fly of the Falkland Islands does not attack living sheep as do the species of blow-flies found in Australia, New Zealand and South Africa, in which countries the Blow-fly menace has formed the subject of special enquiry. As a result of field investigations which
Colonial Office.

The Under Secretary of State,

Excerpt
to M.P.
9/1/27

which were recently carried out in New South Wales on a very large scale, the following important conclusions have been arrived at, which cannot fail to be of value in considering measures for the reduction of the Blow-fly in the Falkland Islands.

(a) The actual range of blow-flies is at least 10 miles and a single carcase is capable of infecting a tract of country 20 miles in diameter or 314 square miles in area.

(b) The prevailing wind has a direct influence on the direction in which the flies travel and the majority of the flies travel with or slightly across the wind when ranging over the country in search of breeding or feeding grounds, although they will follow the scent of carrion against a slight breeze.

(c) The length of life of the adult flies under field conditions varies from at least 8 to 28 days and is probably longer.

4. These results, it is pointed out, strongly emphasize the value of carcase destruction, as a means of reducing the number of blow-flies and other measures advocated for the same object include trapping of the adult flies and the introduction of the parasite *ALYSIA MANUCATOR*, which would destroy the blow-fly pupae.

5. In the Falkland Islands the large area of the farms and the nature of the country make effective carcase-destruction, for the present impracticable, but much could be done by improving the sanitation of the Settlements, by using a simple form of incinerator, and by trapping the adult flies.

6. Energetic measures, however, for the reduction of the number of blow-flies in Stanley and its vicinity are urgently necessary. The expenditure of a relatively large

*Excerpted
to M.P. 9/27*

large sum has been approved for the improvement of the sanitary condition of the town and the establishment of a scavengering service and the provision of an incinerator have been decided upon. The town is situated on a peninsula, which is in the extreme east of the island. The prevailing winds are from the West and North-west. The common and the other lands in the immediate vicinity of the town, with the exception of a small area owned by the Falkland Islands Company, are the property of the Crown; and I suggest that the Board of Health should consider what means are practicable for ensuring the destruction of carcases on these lands. I recommend further that steps should be taken for the reduction of the blow-fly by means of trapping the adult flies and by endeavouring to introduce the parasite *ALYSIA MANDUCATOR*.

Excerpted to h.P. 9/27

September 1926. Vol.3.No.3.

7. Trapping has already been tried but without marked effect. A description of the trap which experiments in Australia have proved to be the most efficient and which is at the same time simple to construct, is given in the Journal of the Department of Agriculture of West Australia. Copies of this publication are not available but the Crown Agents have made arrangements for the reproduction of 12 copies of a description and drawing of the trap; and these will be sent to the Colony. They have also arranged for 12 traps of the West Australian pattern to be made; and these, together with a supply of wire gauze sufficient to make 50 additional traps will be despatched early in January. The traps are intended for use at Government House and Sullivan House (the residence of the Colonial Secretary), which are situated to the West of the town and are especially heavily infested with flies in the months of February and March.

Excerpted to h.P. 89/27.

Excerpted
to M.P.
89/27.

8. When traps were tried about two years ago, poisoned baits were used; but these had the effect of repelling the flies. Experiments were carried out in New South Wales for the special purpose of determining the most efficient bait and it was found that 79.8 per cent of the flies captured were taken in traps baited with bullock's liver. This bait is not readily obtainable at Stanley, but the lungs and heart of sheep were also found to be effective, although in a less degree, and might be tried, as well as other forms of bait which experience may shew to be successful in attracting flies in the special conditions to which they have adapted themselves in the Colony.

9. The introduction of parasitic insects is always liable to meet with opposition and generally through lack of information. A paper on *ALYSIA MANDUCATOR* has been prepared by the Imperial Bureau of Entomology and will be published in a few weeks. It has been conclusively established that this insect confines itself to carcass-eating maggots. Parasitised puparia of the European blow-fly (*CALIPHORA ERYTHROCEPHALA*), which is the species found in the Falkland Islands, are being distributed at the present time by the Bureau of Entomology to the Governments of Australia, New Zealand and South Africa and it is hoped that this parasite will effect an appreciable reduction of the blow-flies in these countries. Dr. Guy A.K. Marshall, C.M.G., F.R.S., Director of the Bureau of Entomology has been good enough to undertake that a small consignment of parasitised puparia will be sent to the Falkland Islands.

10. The consignment will be despatched by R.M.S. ORDUNA on the 6th of January and I am arranging that
the

the small box containing the puparia shall be carried in the vegetable chamber of this vessel. I recommend that the management of the experiment of introducing this insect should be entrusted to Mr. A. G. Bennet, Acting Government Naturalist, for whose guidance directions for the treatment of the parasitised puparia are annexed.

11. Subject to your approval of the steps which I have taken in this matter, I submit that a copy of this letter should be sent to the Colony.

I have, etc.,

(Sgd) J. MIDDLETON.

DUPLICATE

9

FALKLAND ISLANDS.

NO. 141

107 KING STREET,

30 December, 1926.

Sir,

I have the honour to transmit to you a copy of a letter from Sir John Middleton containing various suggestions for combating the pest of the blow-fly in the Falkland Islands.

2. In regard to the sixth paragraph of Sir John Middleton's letter, enquiries have been made from the Ministry of Health as to the means adopted with success in this country for rendering carrion or other meat unpalatable to the fly. I am informed that berax or boric acid powder sprinkled over a carcass has the effect of repelling the insect. You will no doubt consider whether an experiment as to the efficacy of such treatment might usefully be conducted in the environs of Stanley.

3. I shall be interested to learn, in due course, how far it has proved practicable to give effect to Sir John Middleton's proposals, and with what measure of success they have been attended.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

THE OFFICER ADMINISTERING
THE GOVERNMENT OF
THE FALKLAND ISLANDS.

(Signed) L. S. AMERY

C O P Y.

Red 11.
(M.P. 89/27).

IMPERIAL BUREAU OF ENTOMOLOGY.

Head Office at:-

British Museum (Natural History),
Cromwell Road, London, S.W.7.

Sir,

22nd January, 1927.

I have the honour to enclose, herewith, a copy of the pamphlet on the trapping of Blowflies which has been kindly supplied by the Agent General for Western Australia. I obtained this at the request of Sir John Middleton who thought that it might be useful to the official who is going to undertake the control of the flies in the Falkland Islands.

I trust that the consignment of parasitised Blowfly puparia which we sent out by the s.s. "Orduna" on the 6th inst. has arrived safely, and that the parasites have already begun hatching out.

I have the honour to be,

Sir,

Your obedient servant,

(Signed) GUY A. K. MARSHALL.

Director.

The Officer Administering the Government,

Stanley,

FALKLAND ISLANDS.

Imperial Bureau of Entomology

Head Office at—

Director :
GUY A. K. MARSHALL, C.M.G., D.Sc., F.R.S.
Assistant Director
S. A. NEAVE, D.Sc.

BRITISH MUSEUM (NATURAL HISTORY),

CROMWELL ROAD, LONDON, S.W. 7

5th February, 1927.

Sir,

In connection with the arrangements that I made with the late Governor, Sir John Middleton, I have the honour to forward to you, by registered sample post, a small box containing 660 puparia of blowflies which are mostly parasitised.

These ^{parasites} ~~flies~~ are being sent by sample post instead of in cool storage, as we are not sure which is the better way of transmitting them ~~in parasites~~. I hope, however, that the earlier consignment will have rendered it possible to obtain living parasites and will result eventually in the establishment of the insect in the Falkland Islands.

I have the honour to be,

Sir,

Your obedient Servant,

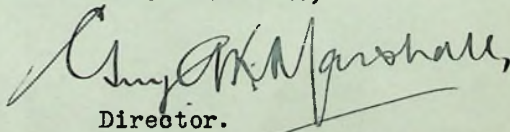
Package receipt :

please see it placed :

to Naturalists' office.

jud
27.4.27

Director.



The Officer Administering the Government,
Stanley,
Falkland Islands.

R.S.S. William Scoresby

May 1st 1927

Sir,

At the request of H.E. the Acting Governor I am writing to report on the blow fly puparia, parasitised by Alysia Manducator, which were sent to Stanley on the recommendation of Sir John Middleton.

I have made an examination of the puparia and taken steps to provide for the hatching out of the parasite. The instructions as to the handling of the puparia did not clearly indicate the method by which the parasite should actually be applied so as to be propagated among the blow flies of the Falkland Islands but the programme we have adopted is as follows. The puparia were kept, together with the moss in which they were sent, in glass jars, and it was hoped that the parasite would hatch out and could subsequently be applied to blowfly maggots collected locally. Some of the puparia were kept in the Government Naturalist's workshop, and some (at a more equable temperature) in the Police Station. Up to now however the parasite has shown no sign of hatching out.

I have opened some of the puparia at the laboratory of the R.S.S. William Scoresby. The contents were in the liquified condition and though they may well have been alive all those examined contained a number of active Nematode worms. There was no actual appearance of specimens of Alysia in the course of developement.

The new supply of parasitised puparia received by the S.S. Ballena and forwarded by parcel post instead of by cold storage have a more healthy appearance ^{and do not appear to be infected by nematodes}. They are also being kept in glass jars and are being watched for signs of development.

I am Sir,

Yours faithfully

Mallackintosh

The Acting Colonial Secretary

Stanley

57/27.

6th May,

27

Sir,

I am directed by the Acting Governor to acknowledge with thanks the receipt of your letters of the 22nd of January and of the 5th of February, 1927, relative to the introduction into this Colony of the parasite *Alysia Manducator* and also of the copy of the pamphlet on the trapping of blowflies kindly supplied by the Agent General for Western Australia and enclosed in the former letter.

2. I am to say that the two consignments of parasitised blowfly puparia have been safely received, the one by s.s. "Orduna" on the 2nd of February, 1927, and the other by s.s. "Ballena" on the 27th of April, 1927.

3. I would explain that in the absence with the 'Discovery' expedition of Mr. J. E. Hamilton, Government Naturalist, and at the South Shetlands of Mr. A. G. Bennett, Acting Government Naturalist, it was difficult at first to ascertain exactly the proper method of handling the parasitised puparia. On the arrival however of the R.S.S. "William Scoresby" of the 'Discovery' expedition the assistance of Mr. N. A. Mackintosh, B.Sc., A.R.C.S., scientific the senior/officer on board, was sought and there is no reason to believe that any step prejudicial to the success

of/

THE DIRECTOR,
IMPERIAL BUREAU OF ENTOMOLOGY,
BRITISH MUSEUM (NATURAL HISTORY),
CROMWELL ROAD,
LONDON, S.W. 7.

of the experiment has been taken.

4. I am to enclose for your information a copy of a report furnished by Mr. Mackintosh in this connection and I would add that there has been no sign of life from the puparia up to the present date.

5. You will see that Mr. Mackintosh considers that the first consignment of the puparia may not have been in as healthy a condition as those recently received. I should be glad to learn whether this is in fact the case in view of the apparent infection by nematode worms to which reference is made.

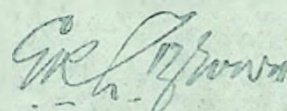
6. I am also to enquire at what temperature it is desirable that the parasitised puparia should be kept previous to hatching and at what dates it is to be anticipated that the several consignments will become active.

7. I am to express the grateful appreciation of this Government for your good offices in this connection.

I am,

Sir,

Your obedient servant,



for Colonial Secretary.

57/27.

9th May,

27

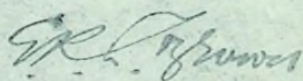
Sir,

I am directed by the Acting Governor to acknowledge the receipt of your report, dated the 1st of May, 1927, on the parasitised blow-fly puparia, which has been supplied with a view to effecting a reduction in the number of blow-flies in the Colony, and to express to you His Excellency's appreciation of the care and trouble you have taken in this matter.

I am,

Sir,

Your obedient servant,



for Colonial Secretary.

N. A. MACKINTOSH, ESQ., B.Sc., A.R.C.S.,
SCIENTIST, R.S.S. "WILLIAM SCORESBY",
AT PORT STANLEY.

GOVERNMENT HOUSE,
STANLEY,
1st June, 1927.

PALMKNAND ISLANDS.

No. 91.

Sir,

With reference to your despatch, No. 141 of the 30th of December, 1926, I have the honour to report in accordance with your instructions on the measures which have been taken locally for combating the pest of the blow-fly.

2. You will recollect that Sir John Middleton in paragraph 6 of his letter of the 15th of December, 1926, a copy of which was enclosed in your despatch under reference, recommended inter alia that the Board of Health should consider what means are practicable for ensuring the destruction of carcasses on the common and the other lands in the vicinity of the town of Stanley. This recommendation has been duly referred to the Board of Health and appropriate bye-laws have been made of which I annex a copy for your facility of reference. I am of opinion that these bye-laws should prove to be effective in their operation.

Enclosure 1.

3. Sir John Middleton further recommended the use for this purpose of the West Australia fly-trap. The twelve traps and the necessary quantity of wire gauze for making fifty additional traps ordered by him through the Crown Agents for the Colonies were

received/

THE RIGHT HONOURABLE

L. C. M. S. AMERY, P.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES.

22.

received in February. Although the past summer has not been so noticeable as some others for the prevalence of the blow-fly a trial has been made with the traps at Government House, at Sullivan House, the official residence of the Colonial Secretary, and at other suitable places, including the Hospital. The results of this trial cannot be said to have been generally satisfactory but experiments will be renewed next season.

4. In accordance with Sir John Middleton's third recommendation two consignments of parasitised nuparia of the blow-fly have been sent to the Colony from the Imperial Bureau of Entomology. The first consignment was received on the 2nd of February, and the second on the 27th of April, 1927, but hitherto the parasite, Alysia Manducator, has failed to show any sign of development. In the absence of Mr. A. G. Bennett, Acting Government Naturalist, as Whaling Officer at the South Shetlands the assistance of Mr. N. A. Mackintosh of the 'Discovery' expedition, senior scientific officer in R.S.S. "William Scoresby", was sought in this connection and was willingly given. I enclose a copy of a report furnished at my request by Mr. Mackintosh and also of a letter addressed by the Colonial Secretary to the Director of the Imperial Bureau of Entomology which sets out the present position. You will see that the further advice of the Bureau in the matter has been asked and /

Enclosure II.

Enclosure III.

21

- 3 -

and that in the meantime the parasitised munaria
are being carefully preserved and watched.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

J. M. ELLIS.

DRAFT BYE-LAWS.

1. The owner of any animal which dies within the limits of the town or the common of Stanley shall bury the carcass of such animal within forty-eight hours of death to a depth of at least three feet.

2. If the owner as aforesaid shall fail to bury the carcass within forty-eight hours the Inspector of Nuisances on receipt of information to such effect shall serve on him a notice in writing calling upon him to bury the carcass within a further period of forty-eight hours and if the owner as aforesaid shall still fail to bury the carcass within such period of forty-eight hours the Inspector of Nuisances shall forthwith cause the carcass to be buried.

3. In any case under the preceding bye-laws where the owner as aforesaid shall fail to bury the carcass within forty-eight hours of the receipt of a notice in writing from the Inspector of Nuisances and the Inspector of Nuisances shall cause the carcass to be buried the owner as aforesaid shall pay to the Inspector of Nuisances on demand the costs of such burial not exceeding £1 and shall be liable on conviction to a fine not exceeding £5.

(19)

ENCLOSURE No. II TO FALKLAND ISLANDS DESPATCH,
No. 91 of the 1st of June, 1927.

R.S.S. William Scoresby
May 1st 1927

Sir,

At the request of H.E. the Acting Governor I am writing to report on the blow fly puparia, parasitised by Alysia.Manducator, which were sent to Stanley on the recommendation of Sir John Middleton.

I have made an examination of the puparia and taken steps to provide for the hatching out of the parasite. The instructions as to the handling of the puparia did not clearly indicate the method by which the parasite should actually be applied so as to be propagated among the blow flies of the Falkland Islands but the programme we have adopted is as follows. The puparia were kept, together with the moss in which they were sent, in glass jars, and it was hoped that the parasite would hatch out and could subsequently be applied to blowfly maggots collected locally. Some of the puparia were kept in the Government Naturalist's workshop, and some (at a more equable temperature) in the Police Station. Up to now however the parasite has shown no sign of hatching out.

I have opened some of the puparia at the laboratory of the R.S.S. William Scorebby. The contents were in the liquified condition and though they may well have been alive all those examined contained a number of active Nematode worms. There was no actual appearance of specimens of Alysia in the course of development.

The /

THE ACTING COLONIAL SECRETARY,
STANLEY.

18.

The new supply of parasitised puparia received by the S.S. Ballena and forwarded by parcel post instead of by cold storage have a more healthy appearance and do not appear to be infected by nematodes. They are also being kept in glass jars and are being watched for signs of development.

I am, etc.,
(SGD.) N. A. MACKINTOSH.

(17)

ENCLOSURE No. III TO FALKLAND ISLANDS DESPATCH,
No. 91 of the 1st of June, 1927.

No. 57/27.

Colonial Secretary's Office,
Stanley, Falkland Islands.
6th May, 1927.

Sir,

I am directed by the Acting Governor to acknowledge with thanks the receipt of your letters of the 22nd of January and of the 5th of February, 1927, relative to the introduction into this Colony of the parasite *Alysia Manducator* and also of the copy of the pamphlet on the trapping of blowflies kindly supplied by the Agent General for Western Australia and enclosed in the former letter.

2. I am to say that the two consignments of parasitised blowfly puparia have been safely received, the one by s.s. "Orduna" on the 2nd of February, 1927. and the other by s.s. "Ballena" on the 27th of April, 1927.

3. I would explain that in the absence with the 'Discovery' expedition of Mr. J. E. Hamilton, Government Naturalist, and at the South Shetlands of Mr. A. G. Bennett, Acting Government Naturalist, it was difficult at first to ascertain exactly the proper method of handling the parasitised puparia. On the arrival however of the R.S.S. "William Scoresby" of the 'Discovery' expedition the assistance of Mr. N. A. Mackintosh, B.Sc., A.R.C.S., the senior/

THE DIRECTOR,
IMPERIAL BUREAU OF ENTOMOLOGY,
BRITISH MUSEUM (NATURAL HISTORY),
CROMWELL ROAD,
LONDON, S.W. 7.

16

senior scientific officer on board, was sought and there is no reason to believe that any step prejudicial to the success of the experiment has been taken.

4. I am to enclose for your information a copy of a report furnished by Mr. Mackintosh in this connection and I would add that there has been no sign of life from the puparia up to the present date.

5. You will see that Mr. Mackintosh considers that the first consignment of the puparia may not have been in as healthy a condition as those recently received. I should be glad to learn whether this is in fact the case in view of the apparent infection by nematode worms to which reference is made.

6. I am also to enquire at what temperature it is desirable that the parasitised puparia should be kept previous to hatching and at what dates it is to be anticipated that the several consignments will become active.

7. I am to express the grateful appreciation of this Government for your good offices in this connection.

I am, etc.,

(SGD.) G. R. L. BROWN.

for Colonial Secretary.

Received 7. 6. 27.

This refers to the first
consignment of "A. L." only.

1907
8. 7. 26.

Staubley
7/June 19

Dear Governor,

I have recently spent some
time with the microscope on
Alysia Manducator. I find
that all the specimens I have
examined (about 20) are ap-
parently devoid of life and are
infected with large nematode
worms. These worms are also
in the water amongst the moss
in which the Alysia were
sent out. (I can demonstrate this at
any time)

I see no chance of rearing
Alysia from the material
supplied to me.

Yours sincerely
H. E. Acting Governor
Government House. H. H. R. Gresham.

From His Excellency the Governor

to the Honourable the Colonial Secretary.

Despatch to Sir Malcolm Robertson

copy to C.O.

- 1) State shortly position of Wasp
versus Blue Bottle campaign.
Require money for ~~the~~ wasps.
Require money for ~~to~~ resist ~~the~~ lizards.
- 2) Am anxious to experiment with lizards.
- 3) Grateful if he could assist by
getting some ~~from~~ for us.
- 4) To be sent by next mail steamer
to F.I.
- 5) We defer cost.
- 6) Only ask if it is no trouble.

AM.

y.g. Draft despatches submttd.

gms
11. 7. 27.

Approved
A.R. 1/27.

GOVERNMENT HOUSE,
STANLEY,
2nd July, 1927.

FALKLAND ISLANDS.

No. 57/27.

Sir,

I have the honour to inform you that measures have been taken recently in this Colony to deal with the pest of the blow-fly which shows signs of developing into a serious nuisance both in the houses in the town of Stanley and in the camp settlements. Among the measures so taken is the attempted introduction of the parasite Alvsia Manducator, a fly which lays its eggs in the maggot of the blow-fly and thus at once propagates its own species and destroys its ^{host} nest. Up to the present time, however, although two consignments of parasitised maggots have been sent to the Colony by the kindness of the Director of the Imperial Bureau of Entomology no success has attended the efforts made to incubate and hatch out the Alvsia Manducator and I have come to consider alternative methods of carrying on the campaign.

2. It has occurred to me that lizards might serve as a useful auxiliary force and I am anxious to try experiments with them. I should be most grateful therefore if you could assist me by obtaining a number of lizards for me; they would be released in the conservatories of Govern-
ment/

SIR MALCOLM ROBERTSON, K.B.E., C.M.G.,

ETC., ETC., ETC.

ment House and other houses where ample supplies of nutriment in the shape of blow-flies become available during the summer months. In winter it is to be presumed that they hibernate and need no attention.

3. I do not of course wish to put you to any trouble in this matter and I should explain that I ask for your help only if my request can be easily met. In such case I would suggest that it might be possible to despatch the lizards to the Falkland Islands by the next steamer carrying mails, the m.v. "Laguna" of the Pacific Steam Navigation Company, which is due to leave Monte Video and Bahia Blanca for the Colony early in August.

4. It is perhaps scarcely necessary for me to add that this Government will be glad to defray any expenses which may be incurred by you in this connection.

I have the honour to be,

Your Excellency's most

obedient, humble servant,

ARNOLD HODSON.

28

GOVERNMENT HOUSE,
STANLEY,
2nd July, 1927.

FALKLAND ISLANDS.

No. 116.

Sir,

With reference to Mr. Ellis's despatch. No. 91 of the 1st of June, 1927, on the subject of the measures which have been taken locally for combating the pest of the blow-fly, I have the honour to transmit, for your information, a copy of a despatch which I have addressed to the Ambassador at Buenos Aires requesting his assistance in the matter of the introduction into this Colony of lizards from the Argentine as an auxiliary force in the campaign against the blow-fly.

In duplicate.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

ARNOLD HODSON.

THE RIGHT HONOURABLE

L. C. M. S. AMERY, P.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES.

The Imperial Bureau of Entomology.

30

Director :

GUY A. K. MARSHALL, C.M.G., D.Sc., F.R.S.

Assistant Director :

S. A. NEAVE, M.A., D.Sc.

Head Office :

THE BRITISH MUSEUM (NATURAL HISTORY),
CROMWELL ROAD, LONDON, S.W.7.

Publication Office :

41, QUEEN'S GATE, LONDON, S.W.7.

FARNHAM HOUSE LABORATORY,
FARNHAM ROYAL,
BUCKS.

Superintendent :

S. A. NEAVE, M.A., D.Sc.

Station : SLOUGH (G.W.R.) 2½ MILES.

Telephone : FARNHAM COMMON 187.

Cables and Telegrams :

ENTBURLAR, FARNHAM-ROYAL.

72.

13th July, 1927.

Sir,

Red 77. I have the honour to acknowledge receipt of your letter 57/27 of the 6th May last, respecting the consignments of the blow-fly parasite, Alysia manducator, despatched to the Falkland Islands early this year. The first consignment of puparia was sent in cool storage, and it is possible that this has not suited the insects so well as in the case of the second which was sent in the ordinary way by sample post. In view of the possibility that the supposed Nematodes in the first consignment may be the larva of a hyper-parasite or of an alternative parasite that it is not desirable to introduce, it would be advisable to destroy any puparia that appear to be infested with them.

With regard to paragraph 6 of your letter it would not be desirable to attempt to keep the puparia at any special temperature, since if they are still living, the parasites will probably emerge naturally in the spring (presumably in the latitude of the Falkland Islands about late October or November). The only precaution that appears to be necessary is to ensure that nothing but this particular parasite is released, and in order that Alysia manducator may be more

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readily identified by the officer in charge of them when they begin to emerge, I am sending you a few pinned specimens under separate cover.

We shall be glad to know in due course whether any living parasites have been reared and released, but should the present consignments prove a failure, a further attempt can be made during the coming winter.

I have the honour to be,

Sir,

Your obedient servant,

A. McLeod

Superintendent.

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The Colonial Secretary
Stanley,
Falkland Islands.

57/27.

2nd September,

27

Sir,

I am directed to acknowledge the receipt of your letter, No. 72 of the 13th of July, 1927, on the subject of the consignments of the blow-fly parasite, Alysia Manducator, despatched by your kindness to this Colony and to thank you for your further kindness and trouble in this connection as also for the pinned specimens of the parasite which have been safely received.

2. I am to say that the first consignment of puparia which appears to be generally infested with a hyper-parasite has been destroyed in accordance with your advice.

3. I am to add that endeavours will be made during the approaching spring to breed and release the parasite from the second consignment and that I shall not fail in due course to inform you of their result.

I am,

Sir,

Your obedient servant,

Colonial Secretary.

THE SUPERINTENDENT,
IMPERIAL BUREAU OF ENTOMOLOGY,
FARNHAM HOUSE LABORATORY,
FARNHAM ROYAL,
BUCKS.

BRITISH CONSULATE GENERAL,

BUENOS AIRES.

No. 20.

7th September, 1927.

Sir,

With reference to Your Excellency's despatch No. 24 of the 18th July last, regarding a supply of lizards for the Falkland Islands, I have the honour to report that I immediately referred Your Excellency's request to the British Vice-Consul at Bahia Blanca who informed me that no one at that town was able to furnish lizards.

2. I then attempted to obtain the reptiles at Buenos Aires, but was unable to do so and finally requested the assistance of the Director of the Zoological Gardens.

3. Delay in replying to my communications both by telephone and in writing has ensued owing to Doctor Holsberg being on vacation in Europe. However, the Acting Director has now informed me that in his opinion it will be difficult to secure lizards in Buenos Aires, but that he will, at my request approach the Governors of Misiones and Corrientes.

4. I am informing the Acting Director that I shall be very grateful for any assistance he can render me in obtaining a supply of lizards, and in the event of these being forthcoming, I shall have them despatched without delay to the Governor of the Falkland Islands.

I have the honour to be,

Sir,

Your Excellency's most obedient

humble servant,

Sgd) A. E. Yapp.

BUENOS AIRES.

His Acting Consul General.

His Excellency

The Right Honourable

Sir Malcolm Robertson, K.B.E., C.B.C.,

cc. cc. cc.

BRITISH CONSULATE GENERAL,

BUENOS AIRES.

No.39.

7th September, 1927.

Sir,

With reference to Your Excellency's despatch No.24 of the 16th July last, regarding a supply of lizards for the Falkland Islands, I have the honour to report that I immediately referred Your Excellency's request to the British Vice-Consul at Bahia Blanca who informed me that no one at that town was able to furnish lizards.

2. I then attempted to obtain the reptiles at Buenos Aires, but was unable to do so and finally requested the assistance of the Director of the Zoological Gardens.

3. Delay in replying to my communications both by telephone and in writing has ensued owing to Doctor Holmberg being on vacation in Europe. However, the Acting Director has now informed me that in his opinion it will be difficult to secure lizards in Buenos Aires, but that he will, at my request approach the Governors of Misiones and Corrientes.

4. I am informing the Acting Director that I shall be very grateful for any assistance he can render me in obtaining a supply of lizards, and in the event of these being forthcoming, I shall have them despatched without delay to the Governor of the Falkland Islands.

I have the honour to be,

His Excellency

Sir,

The Right Honourable

Sir Malcolm Robertson, K.B.E., C.B.E.,

Your Excellency's most obedient

cc. cc. cc.,

humble servant,

BUENOS AIRES.

Sgd. A.E.Yapp.

A.E.Yapp, Acting Consul General



Ambassador

His Majesty's ~~XXXXXX~~ at Buenos Aires presents his compliments

to H.E. the Governor of the Falkland Islands

and has the honour to transmit herewith the under-mentioned paper. for his information.

British Embassy,
~~XXXXXXXXXXXX~~

BUENOS AIRES.

September 8th. 1927.

NAME AND DATE.	SUBJECT.
<p><u>From:</u> H.M. Acting Consul General, Buenos Aires. Despatch No. 39 of September 7th, 1927.</p>	<p><u>Extermination of blow-fly at Falkland Islands.</u></p>

Reference to previous correspondence:—

Falkland Islands Despatch No. 57/27
of July 2nd, 1927.

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GOVERNMENT HOUSE,

STANLEY,

14th October, 1927.

FALKLAND ISLANDS.

No. 199.

Sir,

With reference to my despatch, No. 116 of the 2nd of July, 1927, relative to the request made of the Ambassador at Buenos Aires for the supply of a number of lizards to assist in the local campaign against the blow-fly, I have the honour to transmit for your information a copy of a Note received in this connection from Sir Malcolm Robertson together with a copy of my reply thereto.

Enclosure I.

Enclosure II.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

ARNOLD HODSON.

THE RIGHT HONOURABLE

L. C. M. S. AMERY, P.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES.

GOVERNMENT HOUSE,

STANLEY,

14th October, 1927.

FALKLAND ISLANDS.

No. 57/27.

Sir,

I have the honour to acknowledge the receipt of your note of the 8th of September, 1927, on the subject of the supply of a number of lizards to assist in the local campaign against the blow-fly and to thank you for your good offices in this matter.

2. At the same time I would say how much I regret the trouble to which you have been put on this account.

I have the honour to be,

Your Excellency's most
obedient, humble servant,

ARNOLD HODSON.

SIR MALCOLM ROBERTSON, K.B.E., C.M.G.,

ETC., ETC., ETC.

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ENCLOSURE No. II TO FALKLAND ISLANDS DESPATCH,
No. 199 of the 14th of October, 1927.

FALKLAND ISLANDS.
No. 57/27.

GOVERNMENT HOUSE,
STANLEY,
14th October, 1927.

Sir,

I have the honour to acknowledge the receipt of your Note of the 8th of September, 1927, on the subject of the supply of a number of lizards to assist in the local campaign against the blow-fly and to thank you for your good offices in this matter.

2. At the same time I would say how much I regret the trouble to which you have been put on this account.

I have the honour to be,
Your Excellency's most
obedient, humble servant,

(SGD.) ARNOLD HODSON.

SIR MALCOLM ROBERTSON, K.B.E., C.M.G.,
ETC., ETC., ETC.

Stanley.

7. 11. 27

Dear Ellis,

More nonsense about the
law we live in; this comes
from "Nature".

Whoever heard of one
single sheep ever being
attacked by a blow-
fly, whilst alive, in the
Falklands - other countries.

Yes! The Braconid is
apparently old "Alysia"
the friend of our youth
- hyper-parasitized -
by failure ~~to~~ eliminate
to

them as pointed out in this
article.

I think probably the B.M.
think live sheep are
attacked by blue-bottles,
as in a & NZ all
one wants here is a
decent meat safe protected
in the usual manner

Yours sincerely

H. H. Graham

P.S. I do not want the article
again. Please.

The Control of Insect Pests by Means of Parasites.

By Dr. S. A. NEAVE.

IN recent years agriculture in its broadest sense has received a powerful stimulus throughout the British Empire owing to the tremendous growth of the demand for vegetable and animal products of all sorts, especially in the more densely populated countries. In consequence, more and more attention has been directed to the insect and other pests of crops and domestic animals, and some recognition of the vast damage they do is becoming general. One result of this is that entomology, as an applied science, has attained a status and importance that would not have been thought possible a generation ago.

The almost world-wide attention that has been directed of recent years to problems of insect pests has naturally led to the investigation of new methods of controlling them. Though considerable strides on the chemical and physical side have been made in advancing our knowledge of insecticides and of apparatus for using them (even aeroplanes having been adapted for this purpose), it is now fairly widely recognised that such methods are seldom more than palliatives and necessarily involve an annually recurrent expenditure. Indeed, it is not too much to say that the damage done by insects, when the cost of keeping down their numbers is added to it, materially increases the cost to the consumer of nearly everything he eats and much of vegetable and animal origin that he wears or uses in other ways. Artificial control measures have the further disadvantage that most of them are unsuitable for use by the uneducated native populations, who are yearly producing more and more of the crops of cotton and other tropical products that are exported to other countries.

One of the primary causes of an insect becoming sufficiently numerous to reach the status of a pest is the action of man himself, who, in the processes of agriculture, destroys the equilibrium that exists under natural conditions between insects and their various enemies. A pest with a somewhat different origin, and one often most difficult to deal with, is an insect that has been accidentally or thoughtlessly introduced into a new country where the climatic conditions may be specially favourable to it and the natural enemies that kept down its numbers in its native country do not exist. That this should have already occurred in the temperate regions of the New World and of the southern hemisphere is not surprising, and some of the worst pests in Canada, South Africa, Australia, and New Zealand are in fact of European origin and not indigenous in those countries. Many examples of this might be cited, but one with which most people are probably familiar is that of the Codling Moth, which infests apples. This insect, though not of any great importance in England, and seldom found in numbers except in neglected orchards, is a major pest in all the more temperate parts of the British Empire. Elaborate spraying operations have to be carried out against it, and these materially enhance the cost of imported

apples, while the fact that the best insecticide used for it contains arsenic has caused much loss and confusion to the trade in imported apples owing to the risk of arsenical residues being found on them.

Though every country now has a more or less elaborate code of quarantine laws directed to keeping out insect pests, they can never be an absolute safeguard, and it is too much to expect that what has happened in temperate climates will not repeat itself in tropical ones with the ever-increasing exchange of tropical products that is now going on. Indeed, the history of recent years shows that this is already happening, as can be seen by the spread, within the last ten years, of the dreaded Pink Bollworm of cotton into the New World.

Realisation of all this has led the modern entomologist to try to take a leaf out of the book of Nature, and to see whether what may be called artificial methods of insect control cannot at least be supplemented, and perhaps in some cases superseded, by utilising parasitic insects or other enemies to reduce the numbers of a given pest. Though this method obviously has great limitations and must be applied with great circumspection, it has the outstanding advantage that, if successful, its results are permanent, and that the expense it involves is limited to the original cost of the preliminary investigation and of the breeding, exportation, and establishment in its new home of the parasite concerned. It is not, however, suggested that this method can be expected to eliminate altogether the necessity for artificial control measures except in rare cases, since a parasite in the nature of things does not normally exterminate its host (a procedure that would involve its own extinction), but merely reduces its numbers to such an extent that a major pest may become one of minor importance.

It is obvious that great care must be exercised in the carrying out of such a scheme, and certain cardinal principles are involved. Perhaps the chief of these is that in the majority of cases the parasite selected for introduction must be a highly specialised one that is unlikely to affect the balance of Nature in its new home by attacking anything but its intended host or a species nearly allied to it. It is also important to discover the most effective parasite of the many that commonly attack a given host. Harm may be done by the importation of several parasites, all of which compete for existence in the same host. Though there is some doubt on the point, it has been stated that in Hawaii, where some of the pioneer work of this character has been carried on, when several parasites of the Mediterranean fruit-fly were simultaneously introduced into those islands, they ultimately proved less effective owing to the numbers of the most efficient species being reduced by competition with the others. Similarly, the utmost care has to be taken to eliminate all hyper-parasites, that is to

say, parasites of the parasite itself, for these may practically cancel its effect on the host, and it must be borne in mind that once such minute insects are established in a new country their eradication is impossible. Moreover, a parasite that is only moderately effective in its native country may become vastly more so in a new one if its hyper-parasites are absent. It will therefore be obvious that the successful accomplishment of a scheme of this character involves much careful and often lengthy investigations sometimes extending over several years, and that satisfactory results cannot be guaranteed in advance.

The Government of the United States has devoted large sums in recent years to establishing laboratories where work of this kind may be carried out, and early in the present year it passed an Act that appropriated no less than 10,000,000 dollars for work on the European Corn-borer, an

introduced moth that is doing a vast amount of damage to maize, and the parasites of which are being bred in France for export to North America.

In order that a start may be made on these lines in the British Empire, the Empire Marketing Board has recently provided the Imperial Bureau of Entomology with funds to maintain a laboratory at Farnham Royal. Work has just begun there, but it is not to be expected that any important results can be attained before next year at the earliest, though it is probable that, as a small beginning, a Braconid parasite of the blow-flies that cause serious losses amongst sheep may be sent in the autumn to Australia, New Zealand, and the Falkland Islands. Several investigations have, however, been begun or are being planned, which, it is hoped, will benefit many other parts of the Empire, including Canada, Australia, New Zealand, South Africa, and Kenya Colony.

News and Views.

AN agreement between the I.G. Farbenindustrie (the German Dye Trust) and the Standard Oil Company of New Jersey for the exploitation of a new process for the production of synthetic petrol which the I.G. has evolved, was reported in the *Times* of Aug. 11. This agreement relates solely to the American markets, and further negotiations, it was stated, may be expected with European countries in respect of the realisation of the patent rights concerned. Much speculation appears to have arisen as to the precise nature of the process in question, as only the most meagre information has been officially forthcoming. But the few details provided in the *Times* report are sufficient to identify it with reasonable certainty as that which forms the basis of a group of very recent patent applications emanating from the I.G. This new process, described as the destructive hydrogenation of carbonaceous materials, appears to comprise nothing more than a development of the well-known Bergius method, according to which coal or similar material is subjected to thermal decomposition in the presence of hydrogen under pressure to produce hydrocarbon mixtures of the nature of petroleum. But whereas berginisation is essentially non-catalytic, the new process is based upon the discovery that the introduction of certain catalysts leads to the formation of more valuable hydrocarbons, with increased yields and at an enhanced rate.

THE first of these catalysts to be protected by the I.G. were compounds of nitrogen, whether added as such or formed *in situ* from added nitrogen; then followed molybdenum and its compounds, then chemically combined sulphur, then tungsten and chromium, until now a whole host of such substances have been described. Furthermore, the hydrogen need not be so highly concentrated as in the berginisation method; it may even be present as combined hydrogen, *e.g.* as hydrogen sulphide or methane, or it may be produced by the introduction

of steam which reacts with the carbonaceous material. Otherwise, the reaction conditions appear to be very similar to those obtaining in the berginisation method. Like the latter, it is applicable not only to coal and other solid materials, but also to the treatment of tars, mineral oils, or their distillates, and even to such bodies as asphalts and resins. Presumably it is in the treatment of heavy oil distillates and residues that the Standard Oil Company is interested, for any process using coal as starting material could scarcely be an economic proposition for some years to come in the United States, considering its natural oil resources. It may be remarked that the engineering difficulties associated with the treatment of large quantities of materials under the high temperatures and pressures proposed (of the order of 500° C. and 200 atmospheres) are very considerable, even to an organisation like the I.G., which has unparalleled experience of the technique of high-pressure working. Any estimation of the commercial importance of the process must therefore be reserved until it has definitely emerged from the experimental stage and more detailed information is available concerning it.

IT is now twenty-one years ago since the Victoria Falls and Transvaal Power Company was granted rights to utilise the Falls for the generation of electric power. Hitherto the Company has only used steam plant to produce power, and recently it has received a communication from the Northern Rhodesia Government in which stress is laid on the principle that it is not in the public interest that this source of power should remain indefinitely unused. The Company has replied that it has always been anxious to utilise the power of the Falls commercially as soon as possible. It is quite willing that the rights and conditions granted twenty-one years ago should be suitably modified or expanded, in a similar way to that adopted in other countries for the control of power undertakings. The Company was founded with the object of supplying the Transvaal gold

Management of Alysia manducator.

Treatment of parasitised puparia.

Keep the parasitised puparia in damp sand or moss with a cloth cover to prevent superparasitism by Chalcidids and other parasites liable to attack them in that stage. Both excessive damp and undue dryness are detrimental. Moss should be squeezed out; sand only just damp enough to adhere slightly to the fingers; though this will vary with the size of the particles.

Treatment of adult parasites.

Males emerge often some days before the females. They will live longer in captivity than the latter. Mating takes place readily in captivity. Both sexes may be kept in glass-top boxes with damp blotting-paper and a split raisin or sultana. Either the blotting-paper - from which the parasites eagerly drink - should be moistened every day, or the water must be kept in a tiny vial with a shred of cotton-wool or blotting-paper through the cork.

Oviposition occurs with energy in even a small box when maggots are enclosed with fertilised females. The maggots should be as dirty ~~or~~ odorous as possible. Or a large gauze enclosure may be used, taking care that there are no crevices in which the maggots may secrete themselves from the parasites. One female of the latter will oviposit in dozens of maggots. Superparasitism need not be feared, since from a maggot several times oviposited in, only one Alysia larva, as in normal cases, will be produced. The maggots should be preferably full-fed larvae of Lucilia or of blow-flies (Calliphora etc.). Alysia will oviposit also in such spiny maggots as those of Chrysomya rufifacies.

Alysia displays extraordinary pertinacity in burrowing into the deepest filth in search of suitable maggots, often continuing its activities until the wings have become hopelessly bedraggled and its strength exhausted. Successful oviposition is indicated

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by the complete paralysis and quiescence of the larva for about $1\frac{1}{2}$ minutes after the withdrawal of the ovipositor. After this period it becomes as active again as ever, until pupation.

Under English conditions maggots parasitised about 11th August gave rise to Alysia during the second half of September. Maggots parasitised later in the autumn produce adult parasites in spring and in the following autumn - one-third and two-thirds at these times respectively. None have been found to emerge after October. It is ^{im}possible to guess what the influence of a new climate will be on the period of emergence.

Adult Alysias are not exceedingly shy. They may be handled by wings or legs with fine forceps, and as many as a hundred collected into a small tin with a corked half-inch hole in the lid. In England it has been found convenient to collect them thus in the cool of the early morning, when they are entirely torpid. All parasites emerging should be closely scrutinised, as there is an Ichneumonid parasite very like Alysia, but parasiting other Muscids, and not desirable for introduction.

Management of baits.

With regard to the nature of the bait, Alysia will not oviposit in maggots living in faecal matter; and very little in those subsisting on offal consisting chiefly of visceral remains. The ideal bait, both for Alysia's preferences and for those of suitable maggots, is the fresh carcase of a small animal. This may be laid on sand, or better on a perforated tin over a pan of damp sand into which the maggots may drop when full-fed and from which they may be sifted with very little trouble. Most will be parasitised while feeding in or on the carcase, for Alysia will enter most crevices and folds and will oviposit also through skin and hair. Others may be negotiated by the parasites as they drop on to the sand. Predacious beetles should be rigorously excluded or destroyed. They are frequently responsible for a very high mortality among the maggots. Flies invariably emerge from the healthy puparia a week or

so before the Alysias begin to appear from the others. It is thus convenient to keep the puparia until all flies have emerged and then sort them. If they are mixed with much rubbish the whole may be thrown into a large vessel of water. Nearly all dead puparia sink with the sand and soil, while all the parasitised and empty ones float on the surface, whence the former may be picked off and drained on blotting-paper before being restored to a fresh lot of damp sand. The sand from beneath the bait should be discarded as it is frequently infested with mites and small beetles and often the immature stages of larger ones. Unless much rubbish is present the floating procedure may be dispensed with.

Parasitised maggots should be collected from beneath the baits just before pupation and stored in sand as advised in the first paragraph, with cloth covers as a precaution against such puparia-attacking forms as Mormoniella (Nasonia) and Melittobia (if the latter be present).

Puparia containing a pupating larva or a pupa of Alysia may be recognised by gently chipping a minute fragment off one end, when the presence of a tough silken cocoon closely appressed to the puparial envelope is diagnostic. This chipping should not be done on a large scale as mites have been found liable to force an entry through the remaining wall of silk and to kill the pupa.

When a sufficient stock of parasites has been bred, numbers should be liberated in good weather on the carcass of a sheep or other animal heavily-infested with fairly old maggots.

The Imperial Bureau of Entomology.

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Director :

GUY A. K. MARSHALL, C.M.G., D.Sc., F.R.S.

Assistant Director :

S. A. NEAVE, M.A., D.Sc.

Head Office :

THE BRITISH MUSEUM (NATURAL HISTORY),
CROMWELL ROAD, LONDON, S.W.7.

Publication Office :

41, QUEEN'S GATE, LONDON, S.W.7.

FARNHAM HOUSE LABORATORY,
FARNHAM ROYAL,
BUCKS.

Superintendent :

S. A. NEAVE, M.A., D.Sc.

Station : SLOUGH (G.W.R.) 2½ MILES.

Telephone : FARNHAM COMMON 187.

Cables and Telegrams :

ENTBURLAB, FARNHAM-ROYAL.

10th November, 1927.

Sir,

I have the honour to acknowledge receipt of your letter 57/27 of the 22nd September last respecting blow-fly parasites.

We are sending a further consignment in the care of Mr. A. G. Bennett by the s. s. Losada, and I enclose herewith a memorandum of the best methods of dealing with them on arrival.

I have the honour to be,

Sir,

Your obedient Servant,

A handwritten signature in cursive script, appearing to read "S. A. Neave".

Superintendent.

The Colonial Secretary,
Stanley,
Falkland Islands.

COPY.

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IMPERIAL BUREAU OF ENTOMOLOGY.

British Museum (Natural History),
Cromwell Road,
London. S.W.7.

26th August, 1927.

Sir,

I have the honour to acknowledge the receipt of your letter of the 20th August (No.35113/27) transmitting copies of despatches from the Governor of the Falkland Islands with reference to the control of blowflies in that Colony.

2. A reply has already been sent by Dr. Neave to the letter of the 6th May (No.57/27) from the Colonial Secretary of the Falkland Islands on this subject, and in accordance with your request a copy of this reply is now enclosed.

3. With reference to the proposal to introduce lizards from the Argentine in the hopes that they will keep down the flies, I must confess that I feel very doubtful as to the wisdom of this course. The introduction of any undomesticated vertebrate animals into islands must always involve a certain risk, and the hap-hazard importation of lizards without any preliminary investigations into their special habits and probable behaviour is certainly to be deprecated.

4. Nor does it seem that there is really any adequate reason for taking such a risk. The control of the flies by their natural parasite (Alysia) is much more likely to be successful than any other measure, and it will entail no risk whatever. This method should certainly be given an adequate trial before any other

enemy

enemy of the flies is introduced.

5. It is now evident that our two consignments of Alysia last season were sent out too late. Dr. Myers has already a brood of these insects going at our Laboratory, and with normal success we ought to be able to make a shipment in October, so that the insects will arrive in the Falklands in the beginning of their summer.

6. It may be as well to note that if these parasitic wasps are to be successfully introduced into the Falklands they must be bred there under their natural conditions, namely, in carrion. Supplies of small dead animals, or portions of larger carcasses containing fly maggots must be immediately available when the wasps begin emerging. The work of breeding the insects is therefore of a somewhat unpleasant nature and cannot be carried out in the immediate vicinity of dwellings.

7. It seems desirable to mention these facts, because the failure to establish the parasites in one part of Australia last season was due simply to the fact that the entomologist in charge of them wished to keep them under continual observation in his office, and therefore supplied them with maggots that had been washed to remove all odour of carrion. The result was that he could not induce the parasites to lay any eggs, the reason being that it is the smell of the carrion that stimulates the egg-laying instinct in the wasps.

I have, etc.

(Sgd.) Guy A.K. Marshall.

Director.

57-7

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Reference to previous correspondence

FALKLAND ISLANDS.

Governor's Despatch No. 116, of
2nd July, 1927.

No. 113.

Hon C.S.

1. Despatch to Ambassador, B.M. stating we shall not require lizards, enclosing copy of Mr. Marshall's Minute.
2. Despatch to S of S.
(Intld: A.H. 30/12/27.)



Downing Street,
5th November, 1927.

Sir,

I have the honour to transmit to you, for your information, copies of the papers noted below on the subject of the control of blowflies in the Falkland Islands.

I have the honour to be,

Sir,

Your most obedient, Humble servant
(for the Secretary of State)
W. ONMSBY GORE.

The Officer Administering
The Government of the
Falkland Islands.

Date

Description.

26th August

From the Imperial Bureau of Entomology
(without enclosure.)

(A.9)

GOVERNMENT HOUSE,
STANLEY.

12th January, 1928.

FALKLAND ISLANDS.

No. 57/27.

Sir,

I have the honour to refer to my despatch No. 57/27 of the 14th of October, 1927, on the subject of the supply of a number of lizards to assist in the local campaign against the blow fly and to say that I do not desire to trouble you further in this matter in view more particularly of a paper which I have received on this subject from the Director of the Imperial Bureau of Entomology and of which I enclose a copy for your information.

Rec'd 44-45

2. I have once again to express to you my deep appreciation of your kind endeavours to assist this Government in this matter.

I have the honour to be,

Sir,

Your Excellency's most
obedient, humble servant.

SIR MALCOLM ROBERTSON, K.B.E., C.M.G.,

ETC., ETC., ETC.

FALKLAND ISLANDS.
No. 24.

GOVERNMENT HOUSE,
STANLEY.

12th January, 1928.

Sir,

With reference to your despatch No. 113 of the 5th of November, 1927, relative to the control of blowflies in the Falkland Islands, I have the honour to thank you for the enclosed copy of a paper by Dr. Guy A. K. Marshall on the subject of the proposed introduction for this purpose of lizards from the Argentine and to inform you that in view of the considerations therein put forward I have decided not to proceed further along this avenue of approach on the problem in question.

2. I annex for your information a copy of a despatch which I have addressed in this connection to the Ambassador at Buenos Aires.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

ARNOLD HODSON.

THE RIGHT HONOURABLE

L. C. M. S. AMERY, F.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES.

In duplicate.

Recd. 14th Jan 1928

Report on ^{Handwritten} Alysiid manducata in the Falkland Islands.

I have the honour to report the results so far obtained of an experiment to introduce this fly parasite into the Colony.

Two ~~previous~~ consignment^s ~~have~~^{was} been received from the Imperial Bureau of Entomology in February, and March 1927. While nothing emerged from the first, it is interesting to record that from the second batch a single wasp (Alysiid) hatched out early in January 1928 after being in the Colony 10 months, and standing over the winter. Every effort was made to prevent frost reaching these pupae.

I sailed from Liverpool 12th November 1927. Through the kindness of the Director of the Imperial Bureau of Entomology a further box of Alysiid was sent on board in my charge.

^{M.V.} ~~S.S.~~ Losada being the ordinary type of cargo boat had no cool room - more, or less 40 F., but had in operation a small refrigerator standing at 10F. I however found a cool corner outside the cold room in which to stow the pupae, away from both cold, and heat.

I arrived in Stanley 22nd December after a warm voyage. The heat was excessive during a weeks stay in Bahia Blanca, the last day being an ideal one for insect flight.

The box containing the pupae was unpacked on the 23rd December. A number of wasps had hatched out, several of which were already dead. In the few following days numbers emerged. At this time the weather was exceptionally fine for Stanley. Blowflies were very scarce, and their larvae unobtainable except in a minute form.

To the Honourable
the Colonial Secretary.
Stanley.

I bred all that was possible. By January 1st I had some full fed maggots. These I introduced to the wasps. The females were very active during slightly warmer periods, but quite inactive if the temperature fell a few degrees. I might here state that since Christmas the temperature in Stanley - seldom above 65 F. - has been exceptionally cold this season. Moreover the experiment has had to be carried out within a building, as there is no open air place available. There would be the possibility of losing not only the contents of a cage, but the cage as well in the frequent gales, if exposed in an unsheltered place.

Since early January I have been able to breed a large number of blowfly larvae, and supplied them to the Alysia. On cold days I have found it necessary to supply artificial heat to cause animation.

On ^{Feb 18} ~~17~~, blowflies started to hatch out, and have continued to do so since. Not a single Alysia has hatched out to date, but from one pupae I obtained a living larvae not started to spin up.

I observed that the female Alysia failed, in many instances to penetrate the blowfly maggot, but from the large number I actually saw impregnated, nothing like the crop of blowflies should have hatched out that have so far emerged.

I believe that the undue coldness of the season has been the main cause of the so far failure, rendering the insects less active than is desirable.

From the pupae I brought out, I have still several not yet hatched. The last hatched ~~21/2~~ ^{1/2} on Feb 22.

I hope for a small number of Alysia to hatch out in order to continue the stock here until possibly better conditions prevail for their multiplication, and release.

A. G. Bennett

Ag Government Naturalist.

29. 2. 1928

DUPLICATE

COLONIAL SECRETARY'S OFFICE
10 MAR 1928

57

FALKLAND ISLANDS.

NO. 14

Downing Street,

13 January, 1928.

D.
A.H.
20/28

Sir,

Res #4 1546

I have the honour to refer to my despatch No. 113 of the 9th November, 1927 in which I transmitted a copy of a letter from the Director of the Imperial Bureau of Entomology dated the 26th August, on the subject of the control of blow-flies in the Falkland Islands. In that letter reference was made to arrangements which were in contemplation for a further shipment of the Alysia parasite during the present winter, and I now understand that a consignment was actually despatched in October last. I trust that with the further information now contained in the Director's letter regarding the method of handling these insects, it will be found possible with this further consignment successfully to establish the parasite in the Colony.

Your Government has already, in the Colonial Secretary's letter No. 57/27 of the 6th of May to the Director of the Bureau, expressed its grateful appreciation of the services of the Bureau in connection with the attempts to control the blow-fly pest, and I think it possible that you may wish to consider the question of making a small annual contribution to the funds of the Bureau which, as you may be aware, is entirely dependent for its upkeep on the contributions

made

GOVERNOR

ARNOLD HOBBSON, ESQ., C.M.G.,

etc., etc., etc.

made for the purpose by the various Governments of the Empire.

3. I am accordingly enclosing, for your information, a copy of the Report of the Second Imperial Entomological Conference which was held in London in June, 1925. Appendix I (A) of this Report contains a full statement by the Director on the work at that time being carried out by the Bureau. Since that date, further developments have taken place in regard to the export of beneficial parasites, to which reference is made on page 20 of the Report. Acting upon a request submitted by the Managing Committee of the Bureau, the Empire Marketing Board agreed in 1926 to allocate a capital sum of £15,000 for the establishment of a Parasite Laboratory, together with a further annual grant of £4,000 a year for five years towards the upkeep of the Laboratory. The Managing Committee have thus been enabled to establish a Laboratory upon a somewhat larger scale than was contemplated in Resolution 10 of the Conference (printed on page 14 of the Report). I enclose, also, a copy of the Report presented by the Director to the Managing Committee of the Bureau for the year ended the 31st March 1927, attached to which is a Report by the Superintendent of the Parasite Laboratory giving full information as to the establishment of the Laboratory.

4. I also enclose specimen copies of the publications of the Bureau, viz: the "Bulletin of Entomological Research" (published quarterly) and the "Review of Applied Entomology" (published monthly in two separate parts). The former contains original papers on entomological subjects

Respective Governments are guaranteed for the period of five years which normally intervenes between the subjects which are of economic importance; the latter presents abstracts of current entomological literature in all countries. This publication is of special importance as it is only by means of such abstracts, produced at frequent intervals, that those working in this field can keep themselves informed of what is being done elsewhere. The production of the "Review" is, however a costly matter and absorbs a large part of the income of the Bureau.

5. You will appreciate that the Bureau is in a position to render very valuable service to all parts of the Empire, as is indeed indicated by the fact that it receives financial support from no fewer than forty-eight different Governments. I may say that I myself regard it as a most valuable institution, which deserves the fullest measure of support. I enclose a list showing the contributions which are at present being made by the various Governments towards its upkeep, and I hope that your Government may now be prepared to make a small contribution at the rate of, say, £50 a year. In the event of such a contribution being made, free copies of the publications of the Bureau would be sent for the use of your Government, and the Director would be pleased to assist in any way possible in regard to entomological matters which might be referred to him, in addition to attending for the identification of insects forwarded from the Colony for this purpose.

6. I should add that in accordance with arrangements recommended at the Imperial Entomological Conference held in 1920 and 1925 and generally adopted by the Governments concerned, the contributions of the

respective

Respective Governments are guaranteed for the period of five years which normally intervenes between the holdings of the Conferences. The present quinquennial period will terminate at the end of the financial year 1930/31, and in the event of your Government being able to make an annual contribution to the Bureau, it would be greatly appreciated by the Managing Committee if the continuance of the contribution for the remainder of that period could be guaranteed. The Government of the Falkland Islands would, in the event of its contributing to the Bureau, receive in due course an invitation to be represented at the next Imperial Entomological Conference which is due to be held in 1930, or, if this is not practicable, to suggest any matters which it may desire to have discussed by the Conference.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

(for the Secretary of State)
(Signed) W. C. MESSY GORE.

58

57/27.

3rd April, 28.

Sir,

I am directed by the Governor to acknowledge the receipt of your letter of the 10th of November, 1927, on the subject of the despatch of a further consignment to this Colony of the blowfly parasite, Alvsia Manducator.

Reds 49-50

2. I am to enclose for your information a copy of a report prepared in the matter of the attempted introduction of the parasite into the Falkland Islands by Mr. A. G. Bennett, Acting Government Naturalist, from which you will see that little or no success can hitherto be recorded.

3. I am to express to you His Excellency's appreciative thanks for your kind endeavours in this connection and to say that if you consider it desirable this Government will be happy to make yet another attempt to effect successful introduction of Alvsia Manducator.

I am,

Sir,

Your obedient servant,

THE ASSISTANT DIRECTOR,
IMPERIAL BUREAU OF ENTOMOLOGY
FARNHAM HOUSE LABORATORY,
FARNHAM ROYAL,
BUCKS.

for Colonial Secretary.

GOVERNMENT HOUSE,
STANLEY.

5th April, 1928.

FALKLAND ISLANDS.

No. 107.

Sir,

In continuation of my despatch No. 24 of the 12th of January, 1928, relative to the control of blowflies in the Falkland Islands, I have the honour to transmit, for your information, a copy of a report prepared by Mr. A. G. Bennett, Acting Government Naturalist, on the subject of the recent attempts which have been made to introduce into the Colony the parasite of the blowfly named Alysia Manducator, together with a copy of a letter addressed in this connection by the Colonial Secretary to the Assistant Director of the Imperial Bureau of Entomology.

2. You will see that the attempts hitherto made have met almost entirely with failure attributed by Mr. Bennett to the unusual severity of the season.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

ARNOLD HODSON.

Enclosure I.
Kids 29 50

Enclosure II.
Kid 58

THE RIGHT HONOURABLE

L. C. M. S. AMERY, P.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES.

GOVERNMENT HOUSE,
STANLEY.

6th April, 1928.

FALKLAND ISLANDS.

No. 110.

Sir,

With reference to your despatch No. 14 of the 13th of January, 1928, relative to the work of the Imperial Bureau of entomology and in which you suggest that this Government should contribute the sum of £50 annually to the funds of the Bureau, I have the honour to inform you that, subject to the consent of my Executive Council, I am prepared to authorize this payment for the remainder of the quinquennial period terminating on the 31st of March, 19~~28~~³⁰, when the question of the grant can be reconsidered.

2. I would state that I am personally interested in entomology and fully appreciate the value of the research being carried on by the Bureau. It may interest you to know that in the course of the last few years, I have discovered no less than four new species of papilio, namely papilio arnoldi, papilio wienholti, papilio hodsoni and papilio rex abyssinicus, and I mention, without boastfulness, that these discoveries have helped considerably towards the solution of memetic problems. Since my arrival here, I am sorry to say, I have not seen any butterflies,

their/

THE RIGHT HONOURABLE

L. C. M. S. AMERY, P.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES.

(60)

their rarity in this Colony being doubtless attributable to the high winds which blow without ceasing.

3. I would add that I mention these personal details in no spirit of egotism but simply to assure you that I take a real and lively interest in entomology and in the objects of this excellent Bureau which it will be my endeavour, in every possible way to further.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

ARNOLD HODSON.

Report on *Alysia menducata* at the Falkland Islands.

In continuation of my report of 29.2.1928. the following progress has been made with this insect.

Of the pupae brought from the U.K. several are yet to hatch. One hatched on 11. April, and another on the 20th.

I have some 600 pupae remaining of the first generation and have to date hatched 120 perfect insects in addition.

I find that those parasitised between 1-11 January take from 68-74 days for the earliest to emerge, and were still hatching slowly 112 days after the egg was laid. Those parasitised January 11-18 require 77-84 days for the first to appear.

From the 120 insects obtained I have some 3000 larvae, and pupae more or less, parasitised by them.

I find that at 54F. all are sluggish. At 58F. there is slight movement, and females will lay well if in contact with larvae. They are quite active at 56F. plus sunshine. At 60F. (shade) fairly active. At 62F. quite active, and at 64F very active.

Several have hatched out with distended abdomen, and showing a quantity of white. This appears to be a fungoid growth. The infected insect dies within a few days.

I propose to keep the present stock over the winter as free from frost as possible. I would then suggest that colonies be planted on the Western side of the two main islands, as the prevailing winds are Westerly, and the Western sides much the warmer. Small colonies might be started if suitable site, and material can be found at Saunders, Carcass, and West Point Islands as these are undoubtedly the warmest spots in the Colony. Then Roy Cove, Spring Point, or Double Creek on the West Falklands. San Carlos, and a spot in Lafonia on the East Falklands, and one, or more in, or near Stanley.

The Honourable the
Colonial Secretary.
Stanley.

Towards the end of December the Blow-fly begins to appear about Stanley, they probably appear much earlier, possibly early November in the warmer spots of the Colony. I would recommend the start to be made as early as possible so that a second brood could be obtained in the one season, under natural conditions.

A stock should be reserved against failure of the first colonies planted out.

During a conversation at the British Museum on this subject, I think, with Dr Neave. I understood that it was desirable to have returned parasitised pupae bred in the Falklands. A box containing 100 pupae parasitised March 19-24/1928 is being forwarded by P.M.S. Orita, due at Stanley 2nd May. Advantage is being taken of this ship as on board there is cool storage.

A. J. Bennett
Ag Government Naturalist.
30/4/1928.

57/27.

10th May, 28.

Sir,

Reeds. 62-63

In continuation of my letter No. 57/27 of the 3rd of April, 1928, I am directed by the Governor to forward to you a copy of a further report in the matter of the introduction into the Colony of the parasite of the blowfly, Alysia Manducator, which has been prepared by Mr. A. G. Bennett, Acting Government Naturalist.

2. I am glad to say, as you will see from Mr. Bennett's report, that since the date of the previous report satisfactory progress has been made with the experiment in so much as Mr. Bennett has succeeded in breeding locally a new generation of the parasite of which, it would appear, have in turn parasitised a further number of maggots of the blowfly, thus completing the entire cycle.

3. I would add that an endeavour will be made on the lines suggested by Mr. Bennett to distribute the parasites in natural conditions during the course of the next (Antartic) summer.

4. In conclusion I have to state that in accordance with a verbal request which is understood to have been made verbally to Mr. Bennett when in

England/

THE ASSISTANT DIRECTOR,
IMPERIAL BUREAU OF ENTOMOLOGY,
FARNHAM HOUSE LABORATORY,
FARNHAM ROYAL,
BUCKS.

64.

England a sample consignment of maggots of the blowfly parasitised with locally bred Alysia Manducator was despatched to your address in the care of the Captain of the R.M.S. "Orita" direct from Stanley on the 3rd of May, 1928.

I am,

Sir,

Your obedient servant,

E. H. S.
Colonial Secretary.

66

GOVERNMENT HOUSE,
STANLEY.

24th May, 1928.

FALKLAND ISLANDS.

No. 168.

Sir,

In continuation of my despatch No. 107 of the 5th of April, 1928, relative to the control of blowflies in the Falkland Islands, I have the honour to transmit for your information a copy of a further report prepared in this connection by Mr. A. G. Bennett, Acting Government Naturalist, together with a copy of a further letter on the subject addressed by the Colonial Secretary to the Assistant Director of the Imperial Bureau of Entomology.

2. You will observe that the results obtained since the date of Mr. Bennett's previous report are much more satisfactory and are such as to encourage the hope of a successful outcome to the experiment.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

ARNOLD HODSON.

Enclosure I.
Enclosure II.

H. P.,

THE COLONIES.

67

GOVERNMENT HOUSE,
STANLEY.

24th May, 1928.

FALKLAND ISLANDS.
No. 169.

Sir,

I have the honour to refer to my despatch No. 110 of the 6th of April, 1928, and to state that I have observed with regret that inadvertently the date the 31st of March, 1928, has been inserted instead of the date the 31st of March, 1931, in paragraph 1 as being the date on which the quinquennial period in question terminates.

2. I would add that in anticipation of the consent of the Legislative Council to the annual expenditure involved I have caused the necessary authority to be communicated to the Crown Agents for the Colonies for the payment of the contribution of £50 from the funds of this Government towards the upkeep of the Imperial Bureau of Entomology on the 1st of January in each year commencing with the current year 1928.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

ARNOLD HODSON.

THE RIGHT HONOURABLE

L. C. M. S. AMERY, P.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES.

57/27.

25th May,

28.

Gentlemen,

I am directed by the Governor to request that you will pay to the Imperial Bureau of Entomology the sum of £50 in respect of the current year and that you will make a similar payment on the 1st of January in each succeeding year up to and including the 1st of January, 1931.

2. I am to add that these payments are in respect of a contribution which it has been decided to make annually from the funds of this Government towards the upkeep of the Bureau during the four years in question.

I am,

Gentlemen,

Your obedient servant,

C. H. Brown

For Colonial Secretary.

The Crown Agents for the Colonies,
4, Millbank, Westminster,
London, S. W. 1.



FALKLAND ISLANDS

Miscellaneous

DOWNING STREET,

18 June, 1928.

Sir,

Recd. 60-61

I have the honour to acknowledge the receipt of your despatch No.110 of the 6th April, and to inform you that I note that you are prepared to authorise the payment of the sum of £50 annually to the Imperial Bureau of Entomology for the remainder of the quinquennial period terminating on the 31st March, 1931, as a contribution to the Bureau by the Government of the Falkland Islands. The Managing Committee of the Bureau were informed accordingly at their meeting on the 31st May, and expressed their appreciation at this contribution to their resources.

Tick not 169

2. I have assumed that "31st March 1928" at the end of paragraph 1 of your despatch under reference should read "31st March 1931", the date up to which the contributions of the various Governments already supporting the Bureau have been guaranteed.

3. The Crown Agents for the Colonies have been authorised to transfer the sum of £50 from the funds of the Falkland Islands to those of the Bureau as a contribution in respect of the year 1928-29.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

(Signed) L. S. AMERY

GOVERNOR
ARNOLD HODSON, ESQ., C.M.G.,
etc., etc., etc.

The Imperial Bureau of Entomology.

70

Director :

GUY A. K. MARSHALL, C.M.G., D.Sc., F.R.S.

Assistant Director :

S. A. NEAVE, M.A., D.Sc.

Head Office :

THE BRITISH MUSEUM (NATURAL HISTORY),
CROMWELL ROAD, LONDON, S.W.7.

Publication Office :

41, QUEEN'S GATE, LONDON, S.W.7.

FARNHAM HOUSE LABORATORY,
FARNHAM ROYAL,
BUCKS.

Superintendent :

~~S. A. Neave, M.A., D.Sc.~~

W. R. Thompson, Ph.D., D.Sc.
Station: SLOUGH (G.W.R.) 2½ MILES.

Telephone: FARNHAM COMMON 187.

Cables and Telegrams :

ENTBURLAB, FARNHAM-ROYAL.



11th July, 1928.

Sir,

I have the honour to acknowledge receipt of your letter 57/27 of the 10th May, enclosing a report from Mr. Bennett concerning the work carried on by him on Alysia manducator since the beginning of this year. I am very much interested in this report and very pleased to know that Mr. Bennett has succeeded in rearing locally a new generation of the parasite. We hope he will succeed in establishing it in the Falkland Islands.

The sample consignment of blow-fly material parasitised with locally bred Alysia manducator reached us safely, but owing to the method of packing the material they had all dried up and died during the voyage. We should be glad if Mr. Bennett could send us another small consignment of parasite pupae, which should be packed in fresh damp moss.

I am,

Sir,

Your obedient Servant,

W. R. Thompson.

Superintendent.

The Colonial Secretary
Stanley,
Falkland Islands.

DUPLICATE

113

FALKLAND ISLANDS.
NO. MISCELLANEOUS



Downing Street,
20 August, 1928.

Sir,

Red 67.

With reference to your despatch No.169 of the 24th May, on the subject of the Imperial Bureau of Entomology, I have the honour to transmit to you, for your information, the accompanying copies of the Report of the Director of the Bureau for the financial year ended the 31st March 1928, with an appendix containing the Report by the Director of the Parasite Laboratory of the Bureau at Farnham Royal covering the same period.

I have the honour to be,

Sir,

Your most obedient,

humble servant,

(Signed) L. S. AMERY.

THE OFFICER ADMINISTERING
THE GOVERNMENT OF
THE FALKLAND ISLANDS.

57/27.

27th September, 28.

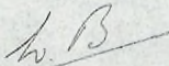
Sir,

I am directed by the Acting Governor to acknowledge the receipt of your letter of the 11th of July, 1928, and to inform you that His Excellency trusts that it will be possible to send to you, as requested, another small consignment of pupae of the blow-fly parasitised with locally bred Alysia Manducator in March or April next year which season Mr. Bennett considers to be the best suited for their despatch.

I am,

Sir,

Your obedient servant,


for Colonial Secretary.

The Superintendent,
Farnham House Laboratory,
Farnham Royal,
BUCKS.

(7-1)

Report on the progress of *Alysia manducata* in the
Falkland Islands. Being a continuation of my report
dated 30th April 1928.

From the March and April (1928) bred flies there hatched
out between September 29th, and November 20th 750 wasps.

They were stored for the winter in an office, in almost
dry sand. The March parasitised maggots although stored, and
exposed to exactly the same conditions, failed to hatch out
with the same good results as those parasitised in April.
It was noticeable that wasps hatched from the March brood
were larger, and stronger insects.

On the 24th September one insect hatched from the
original imported stock, and on the 7th October one hatched
from the 1st generation - January.

About Stanley, Blow-flies are rarely seen before
January. After much hunting about I found a dead calf well
occupied with maggots. After removing a number of maggots,
I planted a colony of flies on the body, and although the
air was not above 40 F. they at once became busy. 14th
October 1928.

The winter brood of blow-flies appear to leave their
hiding places on every favourable day, and deposit eggs on
any carrion available. Although the weather was cold there
were many fine days in August, and September. The winter
brood of *Alysia* unexpectedly emerged at exactly the right
time to attack fully fed maggots of the blow-fly. This brood
hatched out at a temperature of 42-46 F. and worked at 49 F.
a much lower temperature than the previous summer brood would
work at.

From the maggots parasitised in October-November, wasps
are now emerging, the earliest being 86 to 97 days. It is
noticeable that a coming fine day is heralded by the hatching
out of a number greater than usual.

A. G. Bennett
Ag: Gov: Naturalist.
25. January 1929.



Stanley.
25. Jan 1929.

Sir

I beg to submit a further report on the Blow-fly parasite *A. manducator*. in continuation of that of 30th April last

It will, I think, be seen that so far it is a success.

The programme outlined for the planting of colonies in the camps has not been carried out owing to want of means of transport.

I am,
Sir,

Your obedient servant.

AJ Bennett.

To the Honourable
the Colonial Secretary
Stanley.

57/27

15th February.

29.

Sir,

In continuation of my letter No.57/27 of the 10th May, 1928, relative to the measures undertaken to combat the blow-fly pest in the Falkland Islands, I am directed by the Governor to forward to you a copy of a report recently prepared by Mr. A.G. Bennett, Acting Government Naturalist, from which you will see that the experimental introduction into the Colony of the parasite wasp Alysia Manducator has been successfully advanced a further stage.

2. I would add that the necessary steps are at present being taken for the distribution of parasited maggots of the blow-fly in suitable localities e.g. on West Point Island off the West Falkland.

I am,

Sir,

Your obedient servant,

J.M.B.
Colonial Secretary.

THE ASSISTANT DIRECTOR,
IMPERIAL BUREAU OF ENTOMOLOGY,
FARNHAM HOUSE LABORATORY,
FARNHAM ROYAL,
BUCKS.

57/27

15th February.

29.

Sir,

I am directed to say that on the assumption that you will be interested from the point of view both of natural science and of practical utility in the measures which are being taken by the Government to combat the blow-fly pest in the Colony by the introduction of the parasite wasp Alysia Manducator, the Government Naturalist is forwarding to you by the first opportunity a consignment of blow-fly maggots locally parasited by this insect in the crysalis stage.

2. I am to add that it will be greatly appreciated if you will assist in this connection by endeavouring to propagate the Alysia Manducator in accordance with the instructions which will accompany the consignment sent to you by the Government Naturalist.

I am,

Sir,

Your obedient servant,

Colonial Secretary.

A.E.Felton. Esq., J.P.
West Point Island,
WEST FALKLAND.

(98)

GOVERNMENT HOUSE,
STANLEY.

15th February. 1929.

FALKLAND ISLANDS.

NO. 28.

In duplicate.

Sir,

In continuation of my despatch No. 168 of the 24th May, 1928, relative to the measures undertaken to combat the blow-fly pest in the Falkland Islands, I have the honour to transmit, for your information, a copy of a report recently prepared by Mr. A. G. Bennett, Acting Government Naturalist, from which you will see that the experimental introduction into the Colony of the parasite wasp Alysia manducator has been successfully advanced a further stage.

2. I would add that the necessary steps are at present being taken for the distribution of parasited maggots of the blow-fly in suitable localities, e.g. on West Point Island, West Falkland.

3. A copy of Mr. Bennett's report has been sent to the Assistant Director of the Imperial Bureau of Entomology at Farnham House Laboratory.

I have the honour to be,

Sir,

Your most obedient,
humble servant,

ARNOLD HODSON.

THE RIGHT HONOURABLE

L. C. S. M. AMERY, F.C. M.P.
SECRETARY OF STATE FOR THE COLONIES.

M/P 57/27

Naturalist Dept:

Stanley.

27 February 1929.

Sir.

I am instructed to forward you a number of wasps,
Alysia manducata,

A small box is being sent in charge of Mr. *J. Bennett*

Attached are some instructions for their
management which should not prove difficult.

I am

Sir.

Your obedient servant

J. Bennett

Ag Government Naturalist.

To A.E. Felton Esq, J.P.

West Point Island.

57/27.

15th March, 29.

Sir,

I am directed to say that on the understanding that you will be willing to co-operate in the measures which are being undertaken by this Government to combat the blow-fly pest in the Colony by the introduction of the parasite wasp Alysia Manducator, the Government Naturalist is forwarding to you by an early opportunity a consignment of blow-fly maggots locally parasitised by this insect in the chrysalis stage.

2. I am to add that the necessary instructions in this connection will accompany the consignment when sent and that I shall be glad to learn in due course whether any efforts towards the propagation of the Alysia Manducator which you may be good enough to make meet with success.

I am,

Sir,

Your obedient servant,

Colonial Secretary.

The Honourable
G. J. Felton, M.E.C.,
Teal Inlet.

82

The Imperial Bureau of Entomology.

Director:

GUY A. K. MARSHALL, C.M.G., D.Sc., F.R.S.

Assistant Director:

S. A. NEAVE, M.A., D.Sc.

Head Office:

THE BRITISH MUSEUM (NATURAL HISTORY),
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FARNHAM HOUSE LABORATORY,
FARNHAM ROYAL,
BUCKS.



Superintendent:

W. R. THOMPSON, Ph.D., D.Sc.

Station: SLOUGH (G.W.R.) 2½ MILES.

Telephone: FARNHAM COMMON 187.

Cables and Telegrams:

ENTBURLAB, FARNHAM-ROYAL.

19th March, 1929.

Dear Sir,

I beg to acknowledge with thanks, your letter of the 15th February, accompanied by the interesting report from Mr. Bennett. I am very glad to have this report and hope that you will continue to supply us with information in regard to the progress of this work. We shall be glad to assist you further if this seems necessary.

Yours faithfully,

W. R. Thompson

Superintendent.

The Colonial Secretary,
Falkland Islands.

DUPLICATE

(86)

FALKLAND ISLANDS.

DOWNING STREET.

MISCELLANEOUS.

22 March, 1929.

Sir,

With reference to your despatch
No. 169 of the 24th May, 1928, I have the
honour to inform you that, in accordance with Resolution
(2) of the Second Imperial Entomological Conference,
which was held in London in 1925, the next Conference
will fall due to be held in the summer of 1930. The
Resolution in question is printed on page 12 of the
Report of the 1925 Conference, (Cmd.2490), a copy of
which is enclosed.

Cmd.2490.

2. The Managing Committee of the Imperial Bureau
of Entomology accordingly propose to make arrangements
for the next Conference to be held in London in the summer
of 1930, and I have agreed that it should be held at
the time suggested. In the absence of unforeseen cir-
cumstances, the Conference will open early in June of
that year, and no doubt, as in 1925, it will last for
about ten days or a fortnight.

3. The experience of the previous two Conferences
has proved that such meetings of members of the entomo-
logical services in all parts of the Empire are of the
utmost

GOVERNOR,

ARNOLD HODSON, ESQ., C.M.G.,

&c., &c., &c.

utmost value, and the Managing Committee of the Bureau are anxious that the Conference to be held in 1930 shall be as successful as its predecessors. I feel sure that you will agree as to the many useful purposes which these meetings can fulfil, and I trust that your Government will find it possible to accept this invitation to be represented.

4. In this connection I would invite your attention to the recommendation (see paragraph 215 in the Report) of the Imperial Agricultural Research Conference which was held in London in October 1927. For convenience the recommendation is quoted in full:-

"215. Quinquennial Conferences.

In view of the importance of obtaining adequate representation of entomologists at the quinquennial Conferences of entomologists of the Empire arranged by the Imperial Bureau of Entomology, this Committee very strongly recommend that each entomological service in the Empire should be represented by an entomologist at every such Conference, and that sufficient delegates should be sent from the larger entomological services to represent their various activities."

5. It is not practicable at this stage to indicate in detail the Agenda which will be placed before the Conference, but there will be included, as before, entomological questions of economic and scientific importance. In addition the Director will make a statement on the work of the Bureau since the last Conference (including the Parasite Laboratory established under its auspices in 1927) and the question of the financing of

(5)

the Bureau for the period subsequent to 1930 (1930/31) will also be considered. I may add that the Managing Committee have suggested that the question of holding subsequent Conferences at more frequent intervals, and at centres other than London, might be included in the Agenda. You will no doubt agree that this is a question which might well be discussed.

6. I shall be glad if you will inform me whether your Government will be represented at the Conference: and if so, what officer will be nominated for the purpose.

7. The Director of the Bureau will also be grateful if suggestions as to technical subjects which it may be desired to place on the Agenda may be communicated direct to him. These should be addressed to him at the Head Office of the Bureau, which is situated at the British Museum (Natural History), Cromwell Road, London, S.W.1.

I have the honour to be,

Sir,

Your most obedient,
humble servant,

(Signed) L S AMERY

57/27.

9th April, 29.

Sir,

In continuation of my letter No. 57/27 of the 27th of September, 1928, I am directed by the Governor to inform you that the Government Naturalist is sending to you by the mail of the R.M.S. "Orita" leaving Stanley on the 1st of May, 1929, a further consignment of pupae of the blow-fly parasitised with locally bred Alysis Manducator which His Excellency trusts will reach you in a satisfactory condition.

I am,

Sir,

Your obedient servant,

Colonial Secretary.

The Superintendent,
Farnham House Laboratory,
Farnham Royal,
BUCKS.



GOVERNMENT HOUSE,
STANLEY.

11th June, 1929.

FALKLAND ISLANDS.

No. 137.

Sir,

I have the honour to acknowledge Mr. Amery's Miscellaneous despatch of the 22nd of March, 1929, and to inform you that it will not be practicable to arrange for an officer in this service to attend the Imperial Entomological Conference in 1930.

2. With reference to paragraph 7 I will inform the Director of the Bureau direct as to the technical subjects I wish placed on the Agenda.

I have the honour to be,

Sir,

Your most obedient,
humble servant,

ARNOLD HODSON.

THE RIGHT HONOURABLE
SIDNEY WEBB, P.C., M.P.,
SECRETARY OF STATE FOR THE COLONIES.

57/27.

12th June, 29.

Sir,

With reference to previous correspondence on the subject of the experiments being carried out by this Government for the introduction of the parasite wasp, Alysia Manducator, for the destruction of blow-flies, I am directed by the Governor to inform you that though the progress made may in the circumstances be regarded as satisfactory there is little likelihood of the method proving of appreciable value for some time to come.

2. I am to request that the question of the best means of dealing with these pests may be placed on the Agenda of the Imperial Entomological Conference in 1930, in the hope that a more efficacious method may be found.

I am,

Sir,

Your obedient servant,

S. H. Brown
Acting Colonial Secretary.

The Director,
Imperial Bureau of Entomology,
Farnham House Laboratory,
Farnham Royal,
BUCKS.

Imperial Bureau of Entomology

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Head Office at—

Director :
GUY A. K. MARSHALL, C.M.G., D.Sc., F.R.S.
Assistant Director :
S. A. NEAVE, D.Sc.

BRITISH MUSEUM (NATURAL HISTORY),
CROMWELL ROAD, LONDON, S.W. 7

11th September 1929.

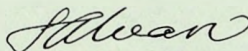
Sir,

I have the honour to acknowledge receipt of your letter No.57/27 of the 12th June last and to inform you with reference to paragraph 2 that the items for the agenda of the Third Imperial Entomological Conference have not yet been considered in detail, but that your proposal will be placed in due course before the Committee appointed to deal with them.

I have the honour to be,

Sir,

Your obedient servant,



Acting Director.

The Acting Colonial Secretary,
Colonial Secretary's Office,
Stanley, FALKLAND ISLANDS.

57/27.

20th January, 30.

Sir,

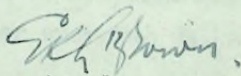
With reference to previous correspondence on the subject of the introduction of the Alysia Manducator into the Falkland Islands I am directed by the Governor to forward a further report by Mr. A. G. Bennett, Acting Government Naturalist, on the progress of the experiment being carried out.

2. I am to add with regard to Mr. Bennett's concluding paragraph that the diminution of the numbers of flies in Stanley is in a large measure also attributable to the regulations now in force for the destruction of carcasses.

I am,

Sir,

Your obedient servant,

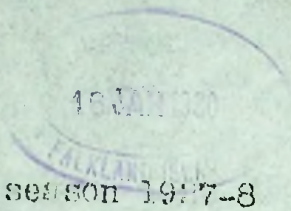

Acting Colonial Secretary.

The Assistant Director
Imperial Bureau of Entomology,
British Museum (Natural History),
Cromwell Road,
LONDON, S.W. 7.

Report on the progress of *Alysia manducata* in the Falkland Islands. Being a continuation of reports dated 30th April 1928, and 25th January 1929.

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Lead 74



The climatic conditions of the summer season 1927-8 consisted of wet and cold. During the same period of 1928-9 conditions were even worse.

Due, I believe, to the cold and wet, the brood hatching out in January 1928 arrived very slowly, and eventually overlapped the next brood. Hatching continued until the 31st March 1929. From these, hatching did not commence until 11th November 1929. - about six weeks later than in the previous year.

Difficulty was experienced in securing fly maggots to carry on the next generation until well into December, when a quantity was discovered at a slaughter house refuse dump.

To meet the possible early arrival of *Alysia*, I had bred a quantity of maggots in the previous April, and successfully kept them in meat until a week before they were wanted, when the whole lot pupated.

The November hatching (1929) continued until 25th December. It is conspicuous that the first hatching of a group of *Alysia* takes place 6-7 days before a really fine day. Storm or cold greatly reduces the number emerging, while a day of snow produces none.

I have not found a suitable dead animal to plant a colony on this season, or have I seen any *Alysia* that could be truly of wild origin. A number have escaped, and at a time when I have been unable to procure maggots, a quantity of fecales have been released.

Blow flies are now in greatly reduced numbers about Stanley. I hardly think that *Alysia* could be responsible for the diminution yet, but prefer to credit the undue cold, and wet weather of the past two and a half years as the cause.

A. Bennett

AG: Government Naturalist.
14th January 1930.

*Shore this
fly
of
1929*

- NIGERIA.
- GOLD COAST.
- SIERRA LEONE.
- GAMBIA.
- KENYA.
- UGANDA PROTECTORATE.
- TANGANYIKA TERRITORY.
- NYASALAND.
- NORTHERN RHODESIA.
- STRAITS SETTLEMENTS.
- FEDERATED MALAY STATES.
- CEYLON.
- FIJI.
- JAMAICA.
- LEEWARD ISLANDS.
- BRITISH GUIANA.
- BRITISH HONDURAS.
- BERMUDA.
- CYPRUS.
- BARBADOS.
- PALESTINE.
- MISCELLANEOUS.

Downing Street,

1 - February, 1930.

Sir,

I have the honour to refer to my predecessor's miscellaneous despatch of the 22nd March, 1929, on the subject of the Third Imperial Entomological Conference; and to inform you that Tuesday, the 17th June, 1930, has now been fixed for the opening of the Conference. The Managing Committee of the Imperial Bureau of Entomology hope to obtain the consent of the Council of the Entomological Society of London for the Conference to be held in the Society's new Council Room at 41, Queen's Gate, South Kensington, which is expected to be completed by that date; and it is also hoped that the Library of the Society will be made available for members of the Conference.

2. In addition to the opening and closing days of the Conference, which will be devoted to general business, it is proposed to set aside four days for the discussion of scientific papers, and a further day

THE OFFICER ADMINISTERING
THE GOVERNMENT OF

day for a visit to the parasite laboratory of the Bureau at Farnham Royal. Visits to Universities and other institutions will also, it is hoped, be arranged, and the Conference will thus in all probability continue until the 27th June. A detailed programme is being drawn up by the Director of the Bureau, and copies will be communicated to the delegates on their arrival in this country. It is particularly requested that delegates will notify their address, when they reach this country, both to the Director of the Bureau at the British Museum, (Natural History), South Kensington, S.W.7., and to the Secretary of the Managing Committee of the Bureau at the Colonial Office.

3. The Director has received from Oversea Governments a considerable number of suggestions as to subjects for discussion at the Conference. It is desirable that the discussions should deal only with matters which are likely to be of general interest, and in the circumstances, the special Sub-Committee of the Managing Committee of the Bureau, which is supervising the preparations for the Conference, has decided that the papers to be read should be confined to broad questions of general application, and the subjects which have been selected are as follows:-

- Locusts:
- Biological control of insects:
- Control of weeds by insects:
- Quarantine measures:
- Fumigation methods:
- Entomological work among backward races:
- Tsetse-fly control:
- Pests of forest trees:
- Pests of cereal crops:
- Organisation of Entomological Departments:
- Control of insects by cultural methods.

Every facility will be given to delegates desiring information and assistance on particular problems to consult the officers and records of the Bureau, and arrangements will be made whenever possible to place such delegates in touch with those who have had personal experience of the problems in question.

4. I understand that the Managing Committee of the Bureau do not propose to issue invitations to non-official bodies or private individuals, either at home or overseas, interested in entomological questions; but they will welcome the attendance of visitors at the public sessions of the Conference. In accordance with their wishes, I should be glad if you would cause a notification to this effect to be conveyed to any persons or institutions in the territory under your administration who are likely to be interested. If you should learn that any such non-official visitors will be attending the Conference, it will be convenient if you will inform me as early as possible, in order that the Director of the Bureau may be advised accordingly.

5. The Report of the Conference will, as usual, be circulated in due course to the Governments which contribute to the Imperial Bureau of Entomology.

I have the honour to be,

Sir,

Your most obedient,
humble Servant,

(Signed) PASSFIELD.

GOVERNMENT HOUSE,
STANLEY.

23th April, 1930.

FALKLAND ISLANDS.

No. 31.

My Lord,

With reference to paragraph 4 of the enclosure to Your Lordship's Miscellaneous despatch of the 1st of February, 1930, I have the honour to inform Your Lordship that Mr. A. G. Bennett, Customs Officer and Assistant to the Government Naturalist, who will be on leave in England in June, has expressed the wish to attend any lecture at a public session of the Imperial Entomological Conference dealing with the destruction of the blow fly by the *Alysia Manducator*.

2. I shall be grateful if the Director of the Bureau may be advised accordingly.

I have the honour to be,

My Lord,

Your Lordship's most
obedient humble servant,

ARNOLD HODSON.

THE RIGHT HONOURABLE
LORD PASSFIELD OF PASSFIELD CORNER, P.C.,
SECRETARY OF STATE FOR THE COLONIES.

57/27.

6th June,

30.

Gentlemen,

With reference to the letter from this office No. 57/27 of the 25th of May, 1927, I am directed by the Governor to inform you that it was intended that the authority for payment of an annual contribution of £50 to the Imperial Entomological Bureau should cover only the present quinquennial period of the Bureau terminating on the 31st of March, 1931, and that as the first contribution by this Government was in respect of the year 1928-1929 the contribution paid on the 1st of January of this year will complete the number of payments require

2. I am accordingly to request that you will regard the standing authority conveyed to you in this connection as having now lapsed.

I am,

Gentlemen,

Your obedient servant,

Colonial Secretary.

Imperial Bureau of Entomology

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Head Office at—

Director:

GUY A. K. MARSHALL, C.M.G., D.Sc., F.R.S.

Assistant Director

S. A. NEAVE, D.Sc.

BRITISH MUSEUM (NATURAL HISTORY),

CROMWELL ROAD, LONDON, S.W.7.

COLONIAL SECRETARIAT
10 JUL 1930
* FALKLAND ISLANDS *

3rd April, 1930.

Sir,

Red 91
I have the honour to acknowledge the receipt of your letter No. 57/27 of the 20th January forwarding a further report by Mr. A. G. Bennett regarding the introduction of Alysia manducator into the Falkland Islands. I am much obliged for this information.

I am,
Sir,
Your obedient Servant,

Guy A. K. Marshall
Director.

The Colonial Secretary,
Colonial Secretary's Office,
Stanley,
Falkland Islands.