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Declarations under Rule 4.17:

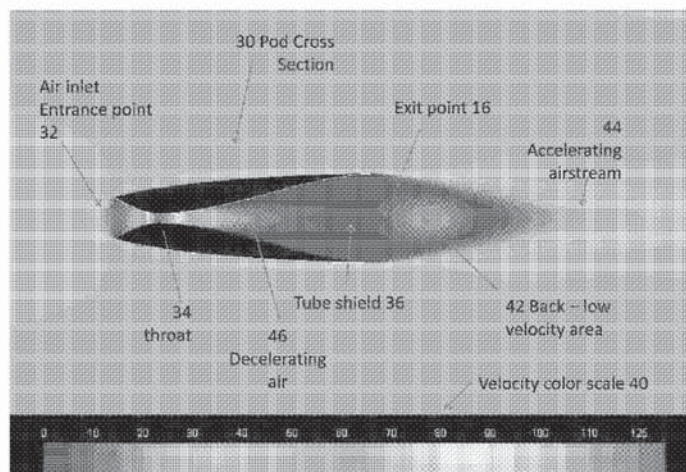
— of inventorship (Rule 4.17(iv))

Published:

— with international search report (Art. 21(3))

(54) Title: RELEASE METHOD FOR INSECT DISTRIBUTION

Fig. 3



(57) Abstract: A diffuser for distributing insects such as mosquitoes from an aircraft, comprises a distribution tube connected to an insect source at a first end and open to the outside at a second end in a direction away from that of travel of the aircraft, for distribution of the insects; and a profile surrounding the second end, the profile being shaped to define a steadily changing airspeed. The pipe may be aligned with airflow at the point of exit of the pipe and protection may be provided around or just upstream of the exit to provide a point of minimal air velocity at the exit, the exit being the point of release of the insects.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 64668	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/IL2015/051178	International filing date (<i>day/month/year</i>) 03.12.2015	Priority date (<i>day/month/year</i>) 04.12.2014	
International Patent Classification (IPC) or national classification and IPC INV. A01K67/033			
Applicant Senecio Ltd.			
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☒ (<i>sent to the applicant and to the International Bureau</i>) a total of <u>13</u> sheets, as follows: ☒ sheets of the description, claims and/or drawings which have been amended and/or sheets containing rectifications authorized by this Authority, unless those sheets were superseded or cancelled, and any accompanying letters (see Rules 46.5, 66.8, 70.16, 91.2, and Section 607 of the Administrative Instructions). ☐ sheets containing rectifications, where the decision was made by this Authority not to take them into account because they were not authorized by or notified to this Authority at the time when this Authority began to draw up this report, and any accompanying letters (Rules 66.4bis, 70.2(e), 70.16 and 91.2). ☐ superseded sheets and any accompanying letters, where this Authority either considers that the superseding sheets contain an amendment that goes beyond the disclosure in the international application as filed, or the superseding sheets were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in item 4 of Box No. I and the Supplemental Box (see Rule 70.16(b)). b. ☐ (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing, in the form of an Annex C/ST.25 text file, as indicated in the Supplemental Box Relating to Sequence Listing (see paragraph 3ter of Annex C of the Administrative Instructions).			
4. This report contains indications relating to the following items: ☒ Box No. I Basis of the report ☐ Box No. II Priority ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability ☐ Box No. IV Lack of unity of invention ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement ☐ Box No. VI Certain documents cited ☒ Box No. VII Certain defects in the international application ☐ Box No. VIII Certain observations on the international application			
Date of submission of the demand 28.09.2016		Date of completion of this report 17.02.2017	
Name and mailing address of the international preliminary examining authority:  European Patent Office P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Fax: +31 70 340 - 3016		Authorized officer Moeremans, Benoit Telephone No. +31 70 340-4434	



Box No. I Basis of the report

1. With regard to the **language**, this report is based on
- ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a) and (b))
2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

1-17 as originally filed

Claims, Numbers

1-27 as originally filed

Drawings, Sheets

1/15-15/15 as originally filed

- ☐ a sequence listing - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-bis)):
- ☐ the description, pages
 - ☒ the claims, Nos. 1-26
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
5. ☐ This report has been established:
- ☐ taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-bis) and 70.2(e)).
 - ☐ without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91(Rules 66.4bis and 70.2(e)).

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IL2015/051178

6. ☒ With regard to top-up searches (Rules 66.1 *ter* and 70.2(f)):
- ☒ A top-up search was carried out by this Authority on 08.02.2017 (all discovered documents are listed in the Supplemental Box Relating to Top-up Search).
 - ☐ Additional relevant documents have been discovered during the top-up search.
 - ☐ No top-up search was carried out by this Authority because it would serve no useful purpose.
7. ☐ Supplementary international search report(s) from Authority(ies) has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).

* If item 4 applies, some or all of those sheets may be marked "superseded".

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>5, 6, 10, 12-16, 18, 19, 22</u>
	No: Claims	<u>1-4, 7-9, 11, 17, 20, 21, 23-27</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-27</u>
Industrial applicability (IA)	Yes: Claims	<u>1-27</u>
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item I

Basis of the report

The amendments filed with the Telefax received on 22-12-2016 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT.

According to Rule 70(2)(c) PCT, if the International Preliminary Examining Authority considers that any amendment goes beyond the disclosure in the international application as filed, the report shall be established as if such amendment had not been made, and the report shall so indicate. It shall also indicate the reasons why it considers that the amendment goes beyond the said disclosure.

According to Rule 70(2)(c-bis)PCT, if the claims, description or drawings have been amended but the replacement sheet or sheets were not accompanied by a letter indicating the basis for the amendment in the application as filed, as required under Rule 46.5(b)(iii), Rule 46.5(b)(iii) being applicable by virtue of Rule 66.8(c), or Rule 66.8(a), as applicable, the report may be established as if the amendment had not been made, in which case the report shall so indicate.

The replacement sheets received on 22-12-2016 were not accompanied by a letter indicating the basis for the amendment in the application as filed.

Moreover, no basis can be found for the following features of claim 1:

- "*while extending continuously rearwards towards said second end, thereby*";
- "*which is relatively low at said second end*";
- "*the pod further comprising*" (no pod introduced in claim 1).

Moreover, no basis can be found for the following features of claim 24:

- "*downwind of said first end*";
- "*extending continuously rearwards towards said second end*";
- "*an airflow speed that is relatively low at said second end*";
- "*the pod further comprising*" (no pod introduced in claim 24).

Moreover, no basis can be found for the following features of claim 26:

- *"downwind of an entrance point of said release tube";*
- *"the profile extending towards said exit";*
- *"widening said profile continuously rearwards from said narrow throat towards said exit";*
- *"the shield and profile defining an airstream and airstream direction around said exit".*

Consequently, the report is established as if the amendment had not been made, i.e. on the original set of claims.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- | | |
|----|----------------|
| D1 | US 5 148 989 A |
| D2 | US 4 260 108 A |
| D3 | US 1 957 075 A |
| D4 | US 5 794 847 A |

1 The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of independent claims 1, 24, 26 is not new.

1.1 D1 discloses (see figures 1, 1A and 10):

A diffuser for distributing insects from an aircraft (see figure 1), the aircraft having an inside and an outside (see figure 1), and comprising:
at least one distribution tube (40) connected to an insect source (50) at a first end and open to the outside at a second end in a direction away from the direction of travel of the aircraft (see figure 1), for distribution of the insects;
and

a profile (16) surrounding said second end, the profile being shaped to define a steadily changing airspeed (see figures 1, 1A, 10; see column 4, lines 54-58) (**claim 1**).

1.2 D1 discloses:

A diffuser for distributing insects from an aircraft (see figure 1), the aircraft having an inside and an outside (see figure 1), and comprising:

at least one distribution tube (40) connected to an insect source (50) at a first end and open to the outside at a second end in a direction away from the direction of travel of the aircraft (see figure 1), for distribution of the insects; and

a profile (16) surrounding said second end, the profile being shaped to define an airflow direction that is tangential to streamlines local to said second end (see e.g. figures 1, 1a) (**claim 24**).

1.3 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent **claim 26**, which therefore is also considered not new.

2 Dependent **claims 2-23, 25, 27** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, see D1-D4.

Re Item VII

Certain defects in the international application

3 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

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Application Number: PCT/IL2015/051178

Applicant: SENEIO LTD.

International Filing Date: 3 December 2015

Title: RELEASE METHOD FOR INSECT DISTRIBUTION

Examiner: MOEREMANS Benoit

LETTER IN RESPONSE TO WRITTEN OPINION

This is in response to the Search Report and Written Opinion dated 4th March 2016.

The Examiner cites D1 against the independent claims.

D1 shows distribution of insects using a nozzle profile which is designed to provide gradual increases in airspeed. However the nozzle shape shown is discontinuous and the fact that there is an air inlet at every stage would make the airspeed step changes too strong for fragile insects such as mosquitoes.

The independent claims are amended on the basis of the passage on Page 11 lines 19 to 30 in combination with the shape of the profile as shown in Fig. 2 and as also shown in Figs 3 – 10. The definition now requires a profile that widens continuously from a narrow throat to the exit point of the insects from the pipe, as clearly shown in the figures.

No such teaching is shown in the citations since D1 is discontinuous. Furthermore, D1 releases the insects right into the front of the profile at the very narrowest point. That point is not a narrowing of the pod and thus does not constitute a throat but even if it were, the insects would not be released downstream of the throat, contrary to the requirement of the amended claim.

D2 does not have an exit point for insects, only for insects' eggs. Furthermore, as appears in the figures, the release point is at the throat itself, rather than behind it where the profile widens.

More particularly, D2 line 40 notes "...for increasing velocity of the air flow from the outlet. The increased velocity air flow is then applied to a short venturi section..... which directs the high velocity air into the spreader... "(line 50). The high velocity air flow within the venturi.... And this partial vacuum... Enhance the flow of

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eggs.. to the venturi where the loose eggs entrained with the air flow and blown into spreader section.

As D2 is merely releasing eggs and because eggs are not fragile, the release method is different. D2 defines increase the speed to blow the eggs outside. By contrast, in the present embodiments, fragile insects are blown out as gently as possible.

In particular, the shape of the pod in D2, leads to flow disconnection, and fails to provide the continuous flow needed for fragile insects. The structure of the pod in the present claims provides a slow speed at the exit which gradually increases and the insects as they exit are not buffeted by flow distortion from air travelling around the pod. Thus the pod of the present embodiments has an external aerodynamic profile as described in the figures which ensures smooth air flow all around.

It is further noted that the structure in D2 leads to mixing (page 10 claim 1 line 42, then again on claim 18, line 68 page 12) the eggs with the airflow inside the venturi. The present embodiments try to minimize all mixing of air and maintain the insects within an air volume within the central flow coming from the central element. Thus a smooth gradual change is achieved.

D3 has no exit point for insects, and in any event the exit point of D3 is at the throat itself.

Furthermore, D3, deals with liquid spray and also mentions eggs. D3 – as stated on page 1 line 9 attempts to create an atomizer using the induced air, meaning a requirement for a high velocity, the exact opposite of what is required in the present embodiments.

D4 does dispense insects, and the insects are dispensed behind the throat. However the profile does not continuously widen from the throat to the exit point.

More particularly, on page 13, line 5 there is a reference to a reverse: “The reverse venture serves merely to slow down the incoming air such that when the beneficial insects are introduced into the airstream they will not be severely impacted if the air is moving at a slower speed”.

However, the design of D4 does not teach or suggest widening after the throat.

The skilled person faced with the problem of adapting D4 for fragile insects would see that narrowing is important but if the result is still not gentle enough for the

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insects then the obvious move is to lengthen the pod. The skilled person would not appreciate that widening the pod after the narrowing is the necessary answer.

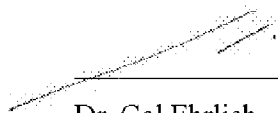
The present inventors however have discovered that the problem can be solved by first converging and then diverging within the pod because without converging first, sufficient air may not get into the pod in order to form an air column of sufficient length. Once there is sufficient air from a wide inlet that converges to a narrow throat then widening after the throat slows down the air and a relatively stable slow air column of sufficient length is formed.

On the basis of the present amendment it is believed that the prior art is now overcome and the claims are allowable.

The issue of reference numerals in the claims is not attended to at this time, as it is not a requirement in most of the designated states.

The right is reserved in respect of any subject matter abandoned or deemed abandoned by the present amendments to restore that subject matter to the application or to any national applications derived therefrom, or to file one or more divisional applications of the national applications derived therefrom in respect thereof.

Respectfully Submitted,



Dr. Gal Ehrlich

Agent on behalf of Applicant

Enclosed: Marked Up Amended claims

Clean Amended Claims

PCT Patent Application No. PCT/IL2015/051178

Agent Ref.: 64668

WHAT IS CLAIMED IS:

1. A diffuser for distributing insects from an aircraft, the aircraft having an inside and an outside, and comprising:

at least one distribution tube connected to an insect source at a first end and open to the outside at a second end in a direction away from the direction of travel of the aircraft, for distribution of the insects; and

a profile surrounding said second end, the profile being shaped to widen from a narrow throat while extending continuously rearwards towards said second end, thereby to define a steadily changing airspeed which is relatively low at said second end.

2. The diffuser of claim 1, wherein said opening is located in respect of said shaped profile at an airspeed minimum location.

3. The diffuser of claim 1, or claim 2, wherein said steadily changing airspeed comprises a gradient of steadily accelerating airspeed away from said distribution tube in said direction away from the direction of travel of the aircraft.

4. The diffuser of claim 3, wherein said profile is shaped to provide gradual aerodynamic deceleration towards said second end following said gradient of steadily accelerating airspeed.

5. The diffuser of claim 1, wherein a blunt obstacle is located upwind of the second end, thus generating said airspeed minimum at said second end.

6. The diffuser of any one of the preceding claims, further comprising:
a nozzle shape surrounding the second end;
and a tube shield surrounding the second end within the nozzle, the tube shield having an aerofoil-shaped cross section, the tube cover and the nozzle together forming said profile.

7. The diffuser of any one of the preceding claims, being an aircraft pod.

8. The diffuser of any one of the preceding claims, wherein said pod comprises a substantially circular cross section.

9. The diffuser of any one of the preceding claims, wherein said pod is for mounting under an aircraft fuselage or under an aircraft wing.

10. The diffuser of any one of the preceding claims, wherein said insect source is contained within said pod along with said diffuser.

11. The diffuser of any one of the preceding claims, wherein the pod comprises a subsonic converging-diverging nozzle shape.

12. The diffuser of claim 7, wherein the pod comprises a bi-cubic polynomial internal contour.

13. The diffuser of claim 7, wherein the pod comprises an elliptical external shape.

14. The diffuser of claim 6, wherein the aerofoil shape is an NACA standard shape.

15. The diffuser of claim 14, wherein the NACA standard shape is an NACA 0018 standard shape.

16. The diffuser of claim 14, wherein the tube shield is positioned within the pod such that a smooth external contour of the standard shape limits flow separation to the near wake of the blunt trailing edge section of the nozzle.

17. The diffuser of any one of the preceding claims, wherein the insect source is provided with an overpressure.

18. The diffuser of claim 17, wherein the overpressure is such as to provide an air velocity exiting the tube at the second end of substantially 1m/s (one meter per second).

19. The diffuser of claim 4, wherein the nozzle is cubic.

20. The diffuser of any one of the preceding claims, wherein the insects being distributed comprise relatively fragile insects being unable to bear a wind shear in excess of 60km/h.

21. The diffuser of any one of the preceding claims, wherein the insects being distributed comprise male insects.

22. The diffuser of any one of the preceding claims, wherein the insects being distributed comprise sterile male mosquitoes.

23. The diffuser of any one of the preceding claims, used to diffuse from an aircraft travelling in excess of 110kmh.

24. A diffuser for distributing insects from an aircraft, the aircraft having an inside and an outside, and comprising:

at least one distribution tube connected to an insect source at a first end and open to the outside at a second end in a direction away from the direction of travel of the aircraft, for distribution of the insects; and

a profile surrounding said second end, the profile being shaped to widen from a narrow throat while extending continuously rearwards towards said second end, the profile being axisymmetric, the profile thus to define defining an airflow direction that is tangential to streamlines local to said second end and an airflow speed that is relatively low at said second end.

25. The diffuser of claim 24 being mounted to an aircraft by an aircraft mounting, wherein said profile is formed from a combination of a tube shield protecting said second end, a nozzle and said mounting.

26. A method of aerial distribution of fragile insects comprising:
releasing insects into a release tube having an exit into ambient air;

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placing a shield upstream of said exit to shield said exit from airflow;

placing a profile around said exit, said profile comprising a narrow throat and extending around said exit;

widening said profile continuously rearwards from said narrow throat towards said exit,

the shield and profile defining an airstream and airstream direction around said exit;

aligning the release tube with ~~an~~ said airstream direction around said exit; and

releasing said insects through said exit into said ambient air.



G. E. Ehrlich (1995) Ltd.



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22 December, 2016

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European Patent Office

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NL-2280 HV Rijswijk

VIA FAX: 31-70-340-3016

(10 pages and 1037)

Dear Sirs,

Re : PCT Patent Application No. PCT/IL2015/051178

Filed: 3 December 2015

By : Senecio Ltd. (Inventor: LEPEK Hanan et al)

For : RELEASE METHOD FOR INSECT DISTRIBUTION

Agent Ref: 64668

Attached please find the Response to the 2nd Written Opinion of 25 October 2016 submitted before the expiration of 2 months from the mailing date, namely **25 December 2016**.

Yours very truly,

Dr. Gal Ehrlich (LS)

Agent on behalf of Applicant

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Application Number: PCT/IL2015/051178

Applicant: SENECIO LTD.

International Filing Date: 3 December 2015

Title: RELEASE METHOD FOR INSECT DISTRIBUTION

Examiner: MOEREMANS Benoit

LETTER IN RESPONSE TO 2nd WRITTEN OPINION of 25 OCTOBER 2016

This is in response to the 2nd Written Opinion dated 25th October 2016.

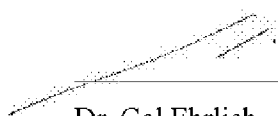
The features pointed out by the Examiner are now inserted into the claims.

On the basis of the present amendment it is believed that the prior art is now overcome and the claims are allowable.

The issue of reference numerals in the claims is not attended to at this time, as it is not a requirement in most of the designated states.

The right is reserved in respect of any subject matter abandoned or deemed abandoned by the present amendments to restore that subject matter to the application or to any national applications derived therefrom, or to file one or more divisional applications of the national applications derived therefrom in respect thereof.

Respectfully Submitted,



Dr. Gal Ehrlich

Agent on behalf of Applicant

Enclosed: Marked Up Amended claims

Clean Amended Claims

PCT Patent Application No. PCT/IL2015/051178

Agent Ref.: 64668

WHAT IS CLAIMED IS:

1. A diffuser for distributing insects from an aircraft, the aircraft having an inside and an outside, and comprising:
at least one distribution tube connected to an insect source at a first end and open to the outside at a second end in a direction away from the direction of travel of the aircraft, for distribution of the insects; and
a profile surrounding said second end, the profile being shaped to widen from a narrow throat downwind of an airflow entrance point while extending continuously rearwards towards said second end, thereby to define a steadily changing airspeed which is relatively low at said second end, the pod further comprising a tube shield downwind of said throat at a point where said profile is widened with respect to said throat, said point being upstream of said second end.
2. The diffuser of claim 1, wherein said opening is located in respect of said shaped profile at an airspeed minimum location.
3. The diffuser of claim 1, or claim 2, wherein said steadily changing airspeed comprises a gradient of steadily accelerating airspeed away from said distribution tube in said direction away from the direction of travel of the aircraft.
4. The diffuser of claim 3, wherein said profile is shaped to provide gradual aerodynamic deceleration towards said second end following said gradient of steadily accelerating airspeed.
5. The diffuser of claim 1, wherein a blunt obstacle is located upwind of the second end, thus generating said airspeed minimum at said second end.
6. The diffuser of any one of the preceding claims, further comprising:
a nozzle shape surrounding the second end;
and a tube shield surrounding the second end within the nozzle, the tube shield having an aerofoil-shaped cross section, the tube cover and the nozzle together forming said

profile.

7. The diffuser of any one of the preceding claims, being an aircraft pod.
8. The diffuser of any one of the preceding claims, wherein said pod comprises a substantially circular cross section.
9. The diffuser of any one of the preceding claims, wherein said pod is for mounting under an aircraft fuselage or under an aircraft wing.
10. The diffuser of any one of the preceding claims, wherein said insect source is contained within said pod along with said diffuser.
11. The diffuser of any one of the preceding claims, wherein the pod comprises a subsonic converging-diverging nozzle shape.
12. The diffuser of claim 7, wherein the pod comprises a bi-cubic polynomial internal contour.
13. The diffuser of claim 7, wherein the pod comprises an elliptical external shape.
14. The diffuser of claim 6, wherein the aerofoil shape is an NACA standard shape.
15. The diffuser of claim 14, wherein the NACA standard shape is an NACA 0018 standard shape.
16. The diffuser of claim 14, wherein the tube shield is positioned within the pod such that a smooth external contour of the standard shape limits flow separation to the near wake of the blunt trailing edge section of the nozzle.
17. The diffuser of any one of the preceding claims, wherein the insect source is provided with an overpressure.

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18. The diffuser of claim 17, wherein the overpressure is such as to provide an air velocity exiting the tube at the second end of substantially 1m/s (one meter per second).

19. The diffuser of claim 4, wherein the nozzle is cubic.

20. The diffuser of any one of the preceding claims, wherein the insects being distributed comprise relatively fragile insects being unable to bear a wind shear in excess of 60km/h.

21. The diffuser of any one of the preceding claims, wherein the insects being distributed comprise male insects.

22. The diffuser of any one of the preceding claims, wherein the insects being distributed comprise sterile male mosquitoes.

23. The diffuser of any one of the preceding claims, used to diffuse from an aircraft travelling in excess of 110kmh.

24. A diffuser for distributing insects from an aircraft, the aircraft having an inside and an outside, and comprising:

at least one distribution tube connected to an insect source at a first end and open to the outside at a second end in a direction away from the direction of travel of the aircraft, for distribution of the insects; and

a profile surrounding said second end, the profile being shaped to widen from a narrow throat, downwind of said first end, while extending continuously rearwards towards said second end, the profile being axisymmetric, the profile thus defining an airflow direction that is tangential to streamlines local to said second end and an airflow speed that is relatively low at said second end, , the pod further comprising a tube shield downwind of said throat at a point where said profile is widened with respect to said throat, said point being upstream of said second end.

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25. The diffuser of claim 24 being mounted to an aircraft by an aircraft mounting, wherein said profile is formed from a combination of a tube shield protecting said second end, a nozzle and said mounting.

26. A method of aerial distribution of fragile insects comprising:
releasing insects into a release tube having an exit into ambient air;
placing a shield upstream of said exit to shield said exit from airflow;
placing a profile around said exit, said profile comprising a narrow throat downwind of an entrance point of said release tube, and the profile extending towards said exit;
widening said profile continuously rearwards from said narrow throat towards said exit, the shield and profile defining an airstream and airstream direction around said exit, the shield being located downstream of said throat;
aligning the release tube with said airstream direction around said exit; and
releasing said insects through said exit into said ambient air.