



THE ENTOMOLOGICAL SURVEILLANCE OF BLUE TONGUE IN ALGERIA.

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INTRODUCTION

-Culicoides imicola is the major old world vector of African horse sickness and Bluetongue.

- In Algeria , Bluetongue is observed for the first time in 2000 (BTV2) , 2006 (BTV1) .

-Since 2003, insects samples were collected from the surveillance activities of culicoides /

2003/2006 (Dr J.C Delecolle,Thierry Baldet) and our team in 2007/2009.

MATERIALS AND METHODS

Survey 2003/2006 (J.C Delecolle, Thierry Baldet)

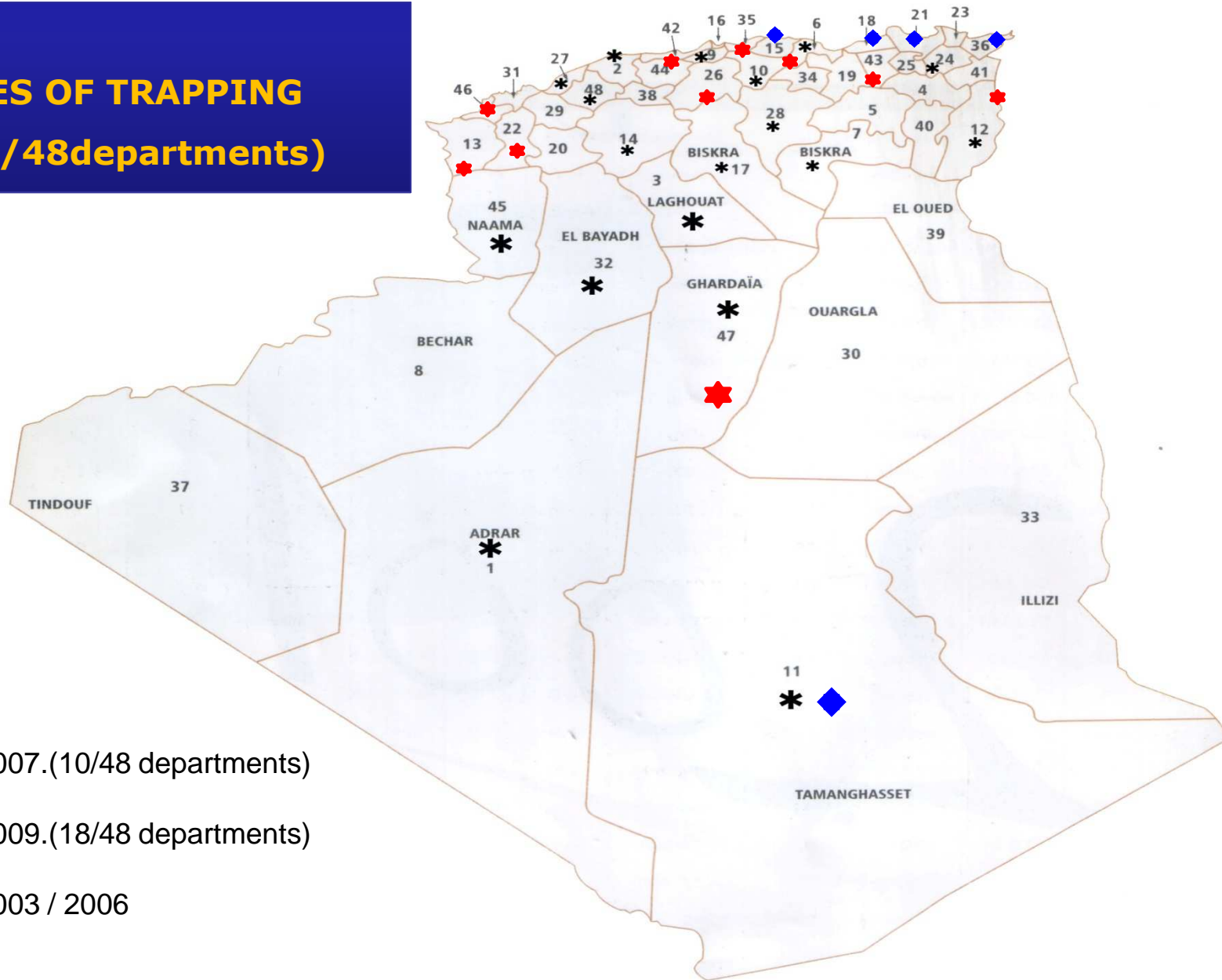
- In 2003, samples from **07 sites** of **04 departments**:
El tarf (2) ,Skikda (2),Jijel (2), Tizi ouzou (1)
Results:
22 *Culicoides* species collected
Presence of *C.imicola*
- In 2006, samples from **10 sites** **Tamanrasset** in Sahara.
Results:
Absence of *C .imicola*
C.ravus, C.kingi ,C.azerbajdzhanicus

Current surveillance
is achieved in the framework of the project
French-Algeria:FSP LABOVET N°2003-24

- The investigation realized in 2007 / 2009 during 2 periods (Mars-April and in June-July).
- The samples were made in 28 departments/48(Algeria):
 - 10-----2007
 - 18-----2009
- We have used light traps OVI from South Africa.

- The samples were collected in water with a drop of detergent and transferred to 90% ethanol.
- In a second period, some samples collected in EDTA solution.
- The areas chosen for Culicoides collections were diversify (wide range of environments, altitudes and animal hosts)

SITES OF TRAPPING (28/48 departments)



★ 2007.(10/48 departments)

* 2009.(18/48 departments)

◆ 2003 / 2006

RESULTS

THE ENTOMOLOGICAL SURVEILLANCE OF BLUETONGUE IN ALGERIA (2007)

2 PERIODS (MARS-APRIL AND IN JUNE-JULY)

10/48 Départements



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Code	Département	Nombre de sites	Résultats C.imicola		Autres culicoides 17
			1 ^{ere} phase	2 ^{ème} phase	
15	Tiz Ouzou	03	38	264	C. Clastrieri C. Montanus
35	Boumerdès	01	/	/	
26	Medea	02	/	01	
42	Tipaza	02	04	38	
13	Tlemcen	01	01	10	
46	Ain Temouchent	01	/	01	
22	Sidi Bel Abbes	01	/	96	
43	Mila	02	/	/	
41	Souk Ahras	03	01	/	
47	Ghardaïa	03	10	58	

**THE ENTOMOLOGICAL SURVEILLANCE OF BLUETONGUE IN
ALGERIA (2009)
2 PERIODS (MARS-APRIL AND IN JUNE-JULY)**

18/48 Départements



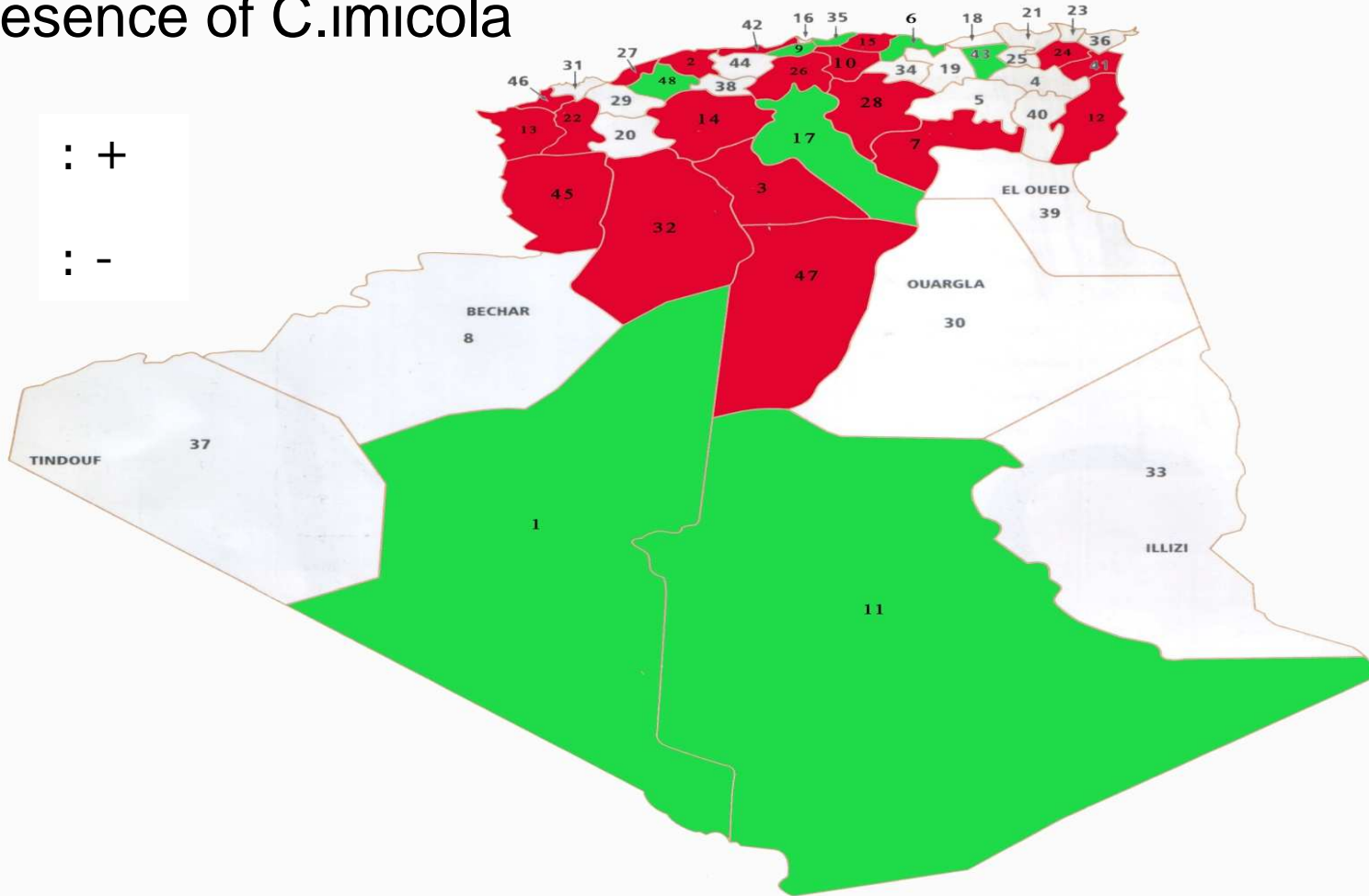
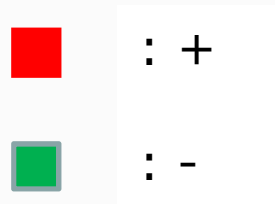
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Code	Département	Nombre de sites	Résultats C.imicola	
			1 ^{ère} phase	2 ^{ème} phase
45	NAAMA	02	/	196
32	EL BAYADH	02	/	76
47	GHARDAIA	04	/	104
3	LAGHOUAT	02	03	278
2	CHLEF	02	/	24
48	RELIZANE	02	/	/
27	MOSTAGANEM	02	03	12
10	BOUIRA	02	01	46
6	BEJAIA	02	/	/
28	M'SILA	02	02	37
14	TIARET	02	01	368
17	DJELFA	02	/	/
9	BLIDA	02	/	/
24	GUELMA	02	15	31
12	TEBESSA	02	/	03
7	BISKRA	02	42	23
11	TAMANRASSET	02	/	/
1	ADRAR	08	/	/

Presence of *C.imicola*



Superficie : 2 381 741 Km²

CONCLUSION

-We have found more *C.imicola* in the second period.

-We observed a low activity (and sometimes absence of the *culicoides imicola*) in some departments whereas cases of bluetongue (BTV 1) occurred in these regions.

-We think that other species of *culicoides* are potential vectors of the transmission of the bluetongue virus

- Since 2003, 10 culicoides species are new for Algeria fauna
- The total of known species in Algeria is increased to 47.

**Liste complétée (non publiée) des espèces
recensées en Algérie**

**LIST COMPLETED (NON PUBLISHED)
OF THE SPECIES COUNTED IN
ALGERIA**

Liste des espèces recensées en Algérie :
(en rouge les espèces nouvelles pour la faune Algérienne)

- 01 - *Culicoides (Avaritia) imicola* Kieffer, 1913
- 02 - *Culicoides (Avaritia) montanus***
- 03- *Culicoides (Avaritia) obsoletus* (Meigen, 1818)
- 04 - *Culicoides (Avaritia) scoticus* Downes & Kettle, 1952
- 05 - *Culicoides (Beltranmyia) circumscriptus* Kieffer, 1918
- 06 - *Culicoides (Culicoides) fagineus* Edwards, 1939
- 07 - *Culicoides (Culicoides) newsteadi* Austen, 1921
- 08 - *Culicoides (Culicoides) pulicaris* (Linné, 1758)
- 09 - *Culicoides (Culicoides) punctatus***
- 10 - *Culicoides (Monoculicoides) parroti* Kieffer, 1922
- 11 - *Culicoides (Monoculicoides) puncticollis* (Becker, 1903)
- 12 - *Culicoides (Oecacta) kingi* Austen, 1912
- 13 - *Culicoides (Pontoculicoides) saevus* Kieffer, 1922
- 14 - *Culicoides (Pontoculicoides) sejfadinei* Dzhafarov, 1958
- 15 - *Culicoides (Silvaticulicoides) fascipennis***
- 16 - *Culicoides (Silvaticulicoides) subfasciipennis* Kieffer, 1919
- 17 - *Culicoides (Synhelea) azerbaijdzhanicus* Dzhafarov, 1962
- 18 - *Culicoides (Synhelea) corsicus***
- 19 - *Culicoides (Synhelea) marcleti* Callot, Kremer & Basset, 1968
- 20 - *Culicoides (Synhelea) semimaculatus* Clastrier, 1958
- 21 - *Culicoides ravus***

Espèces sans affiliation sous générique précise :

22 - *Culicoides algeriensis* Clastrier, 1957

23 - *Culicoides begueti* Clastrier, 1957

24 - *Culicoides cataneii* Clastrier, 1957

25 - *C. clastrieri*

26 - *Culicoides dzhafarovi* Remm, 1967

27 - *Culicoides faghihi* Navai, 1971

28 - *Culicoides festivipennis*

29 - *Culicoides foleyi* Kieffer, 1922

30 - *Culicoides gejgelensis* Dzhafarov, 1964

31 - *Culicoides griseidorsum* Kieffer, 1918

32 - *Culicoides heteroclitus* Kremer & Callot, 1965

33 - *Culicoides jumineri* Callot & Kremer, 1969

34 - *Culicoides kibunensis* Tokunaga, 1937

35 - *Culicoides kurensis*

36 - *Culicoides langeroni*

37 - *Culicoides longipennis* Khalaf, 1957

38 - *Culicoides maritimus* Kieffer, 1924

39 - *Culicoides nudipennis* Kieffer, 1922

40 - *Culicoides odiatus* Austen, 1921

41 - *Culicoides paolae*

42 - *Culicoides pictipennis* (Staeger, 1839)

43 - *Culicoides poperinghensis* Goetghebuer, 1953

44 - *Culicoides pseudopallidus* Khalaf, 1961

45 - *Culicoides sahariensis* Kieffer, 1923

46 - *Culicoides santonicus* Callot, Kremer, Rault & Bach, 1966

47 - *Culicoides sergenti* Kieffer, 1921

Perspectives/Future work

Entomological surveillance monthly

Implementation of a monthly entomological surveillance on some sites would bring faunistic data and informations on the dynamic of vectors in some regions that are currently non prospected

Acknowledgements

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Thank you for your attention