

BTV-2 TUN 2018

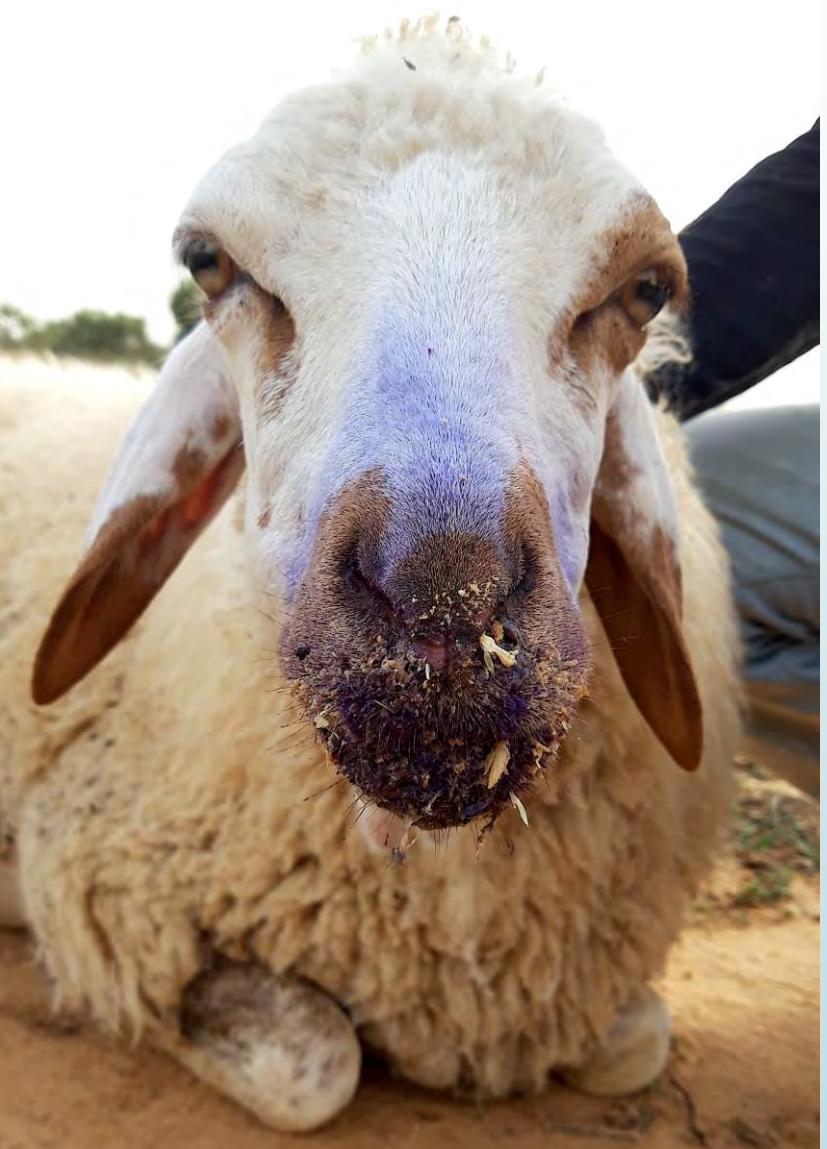


Photo Dr. Aymen Heni

BTM TUN 2018



BTM-3



BTM-2



BTM-3 outbreak

- ✓ 5 in Nabeul
- ✓ 20 Sousse
- ✓ 3 Zagouan
- ✓ 5 Mannouba

BTM-2 outbreak

- ✓ 47 in Sidi Bouzid
- ✓ 7 in Monastir
- ✓ 3 in Mahdia
- ✓ 2 in Kairouan (at least 150 outbreak)

BTV TUN 2018



8 october



16 october



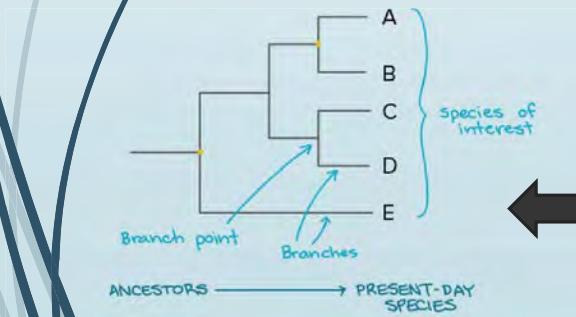
23 october



24 october



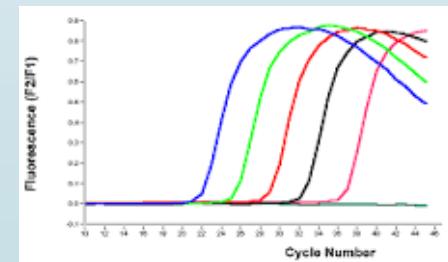
29 october



16 November



13 November



9 November



7 November

infectivity
is being tested

BTV TUN 2018

ITALY 2001 DQ191263.1 BTV2 CALABRIA

ITALY 2000 DQ191262.1 BTV2 SICILY

Tunisia 2000 AF494094.1 BTV2 (L2)

TUN2000 AJ585156.1 BTV2 Tunisia

ITALY 2001 SAD KP821032.1 BTV2 Sardinia

ITALY 2002 KP821029.1 Btv2 ITL2002/07

ITA2000 JN255863.1

FRA2001 KP821024.1 BTV2

ITA2000 KM053269.1 BTV2

South Africa 2017 MG255690.1 BTV2 Beaufortwest

Israel 2012 KF584186.1 BTV2/2115/4/12

Israel 2012 KF584177.1 BTV2/1986/4/12

IND2003 KP696603.1 BTV2

Ind2008 JQ904072.1 BTV2 08/Ind/ABT/Hisar

BTV-2RSA(WT) JN255923.1 REFERENCE STRAIN

SPA2005/01 KP821035.1 BTV2

South Africa-vaccine AJ585157.1 BTV2

VAC MONOV AF481096.1 BTV2VAC

MLV2 KP821031.1 BTV2 VAC

RSA(vacc)JN255933.2 BTV2VAC

Portugal2005 EF434177.1 BTV2/26629/PT05

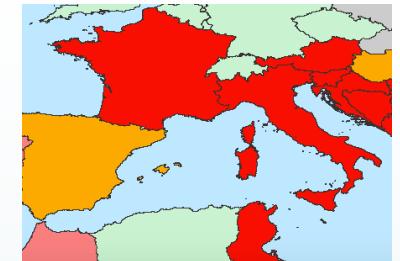
● BTV2TUN2018

OLD AFRICA AJ585153.1 BTV2 Nigeria NIG1982/02

South Africa MG255570.1 BTV2 Queenstown/2017

OLD AFRICA KP821036.1 BTV2 SUD1983/05

OLD AFRICA AJ585155.1 BTV2 Sudan SUD1985/01



0.01

infectious diseases

Differential diagnosis

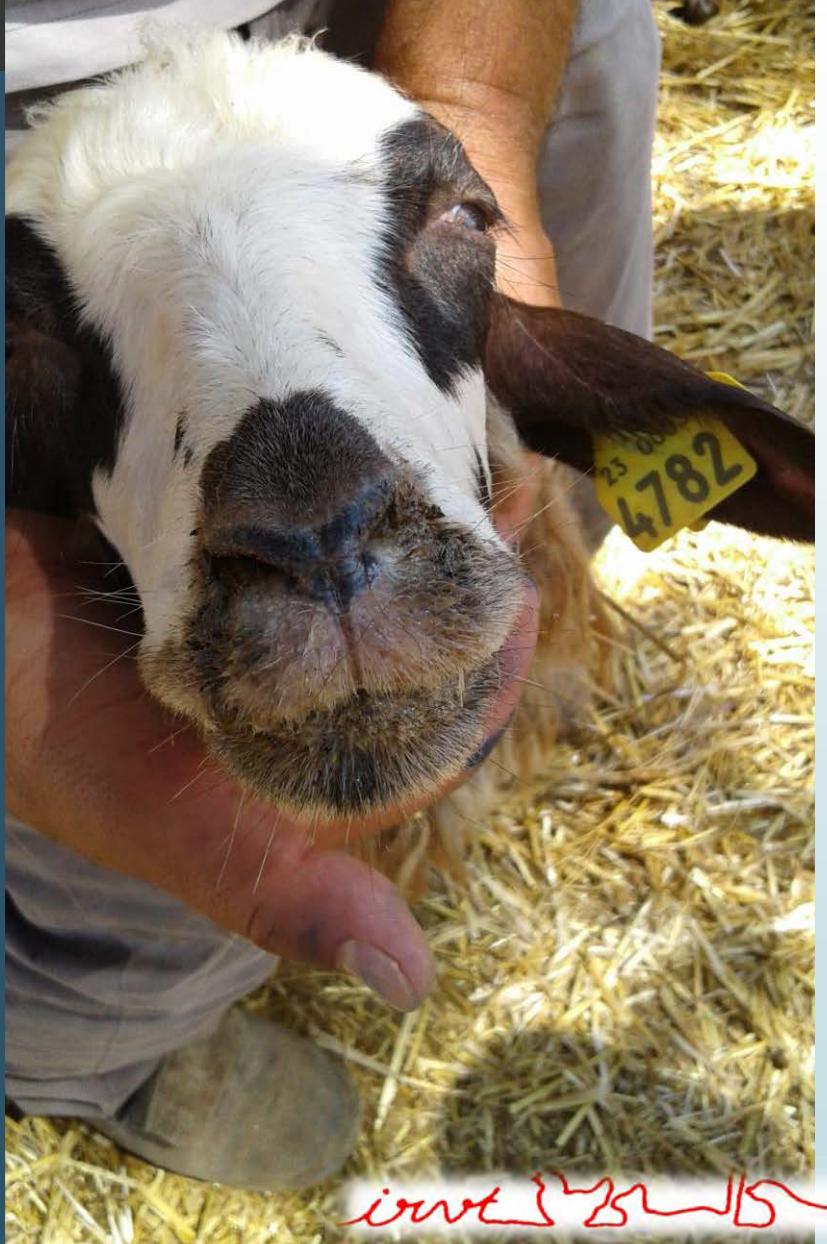
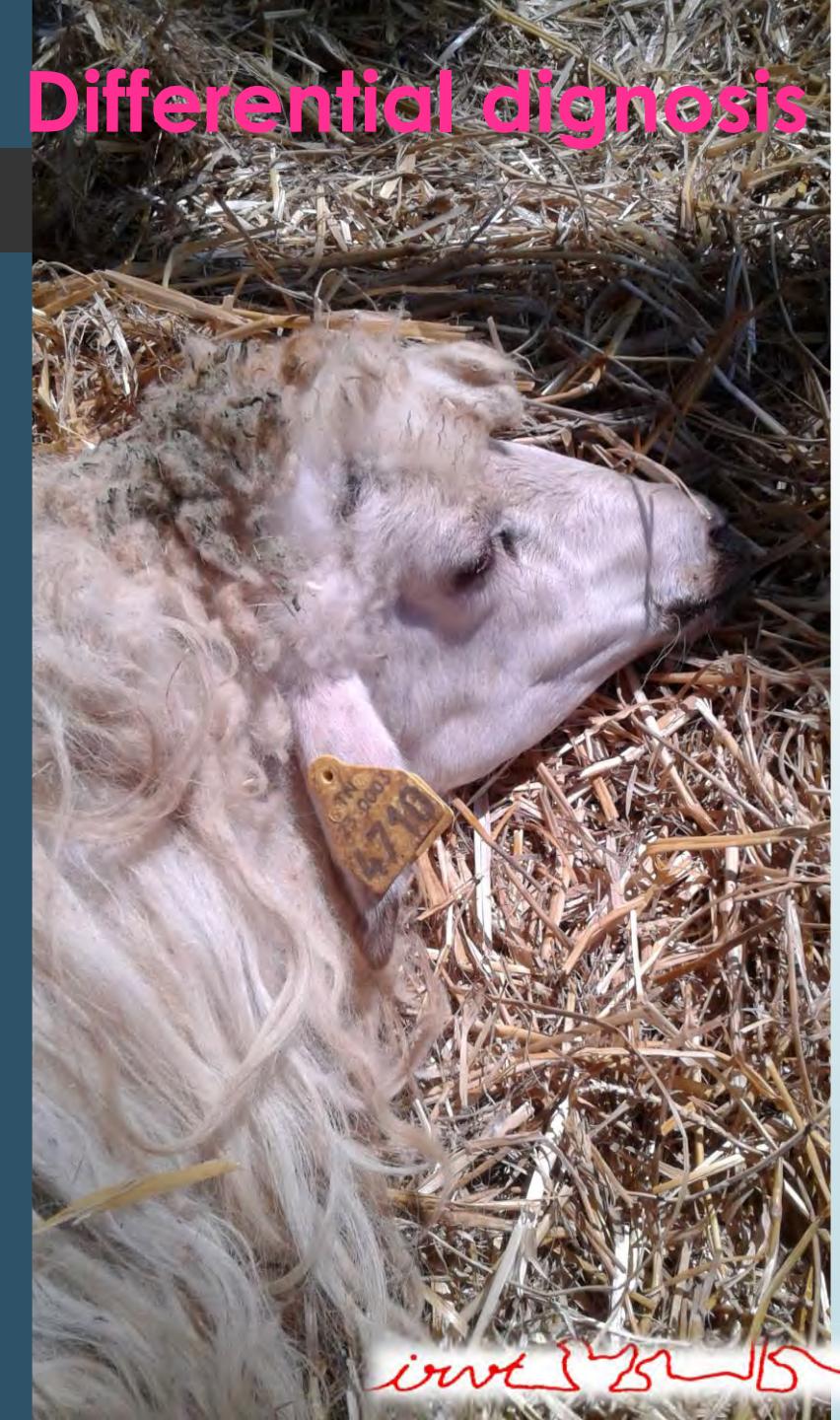


Photo Dr. Soufien Sghaier

Differential diagnosis



inflammation



inflammation

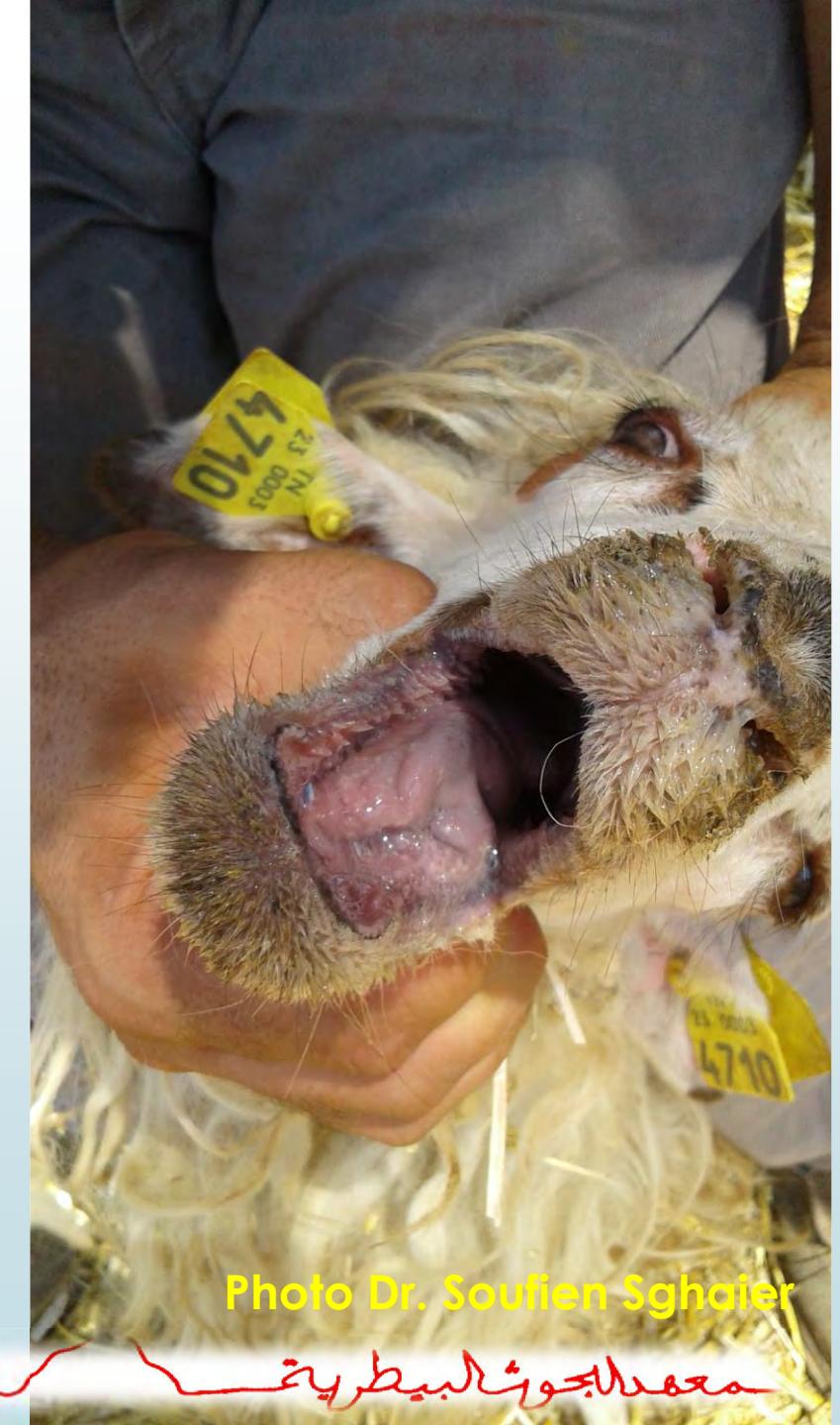
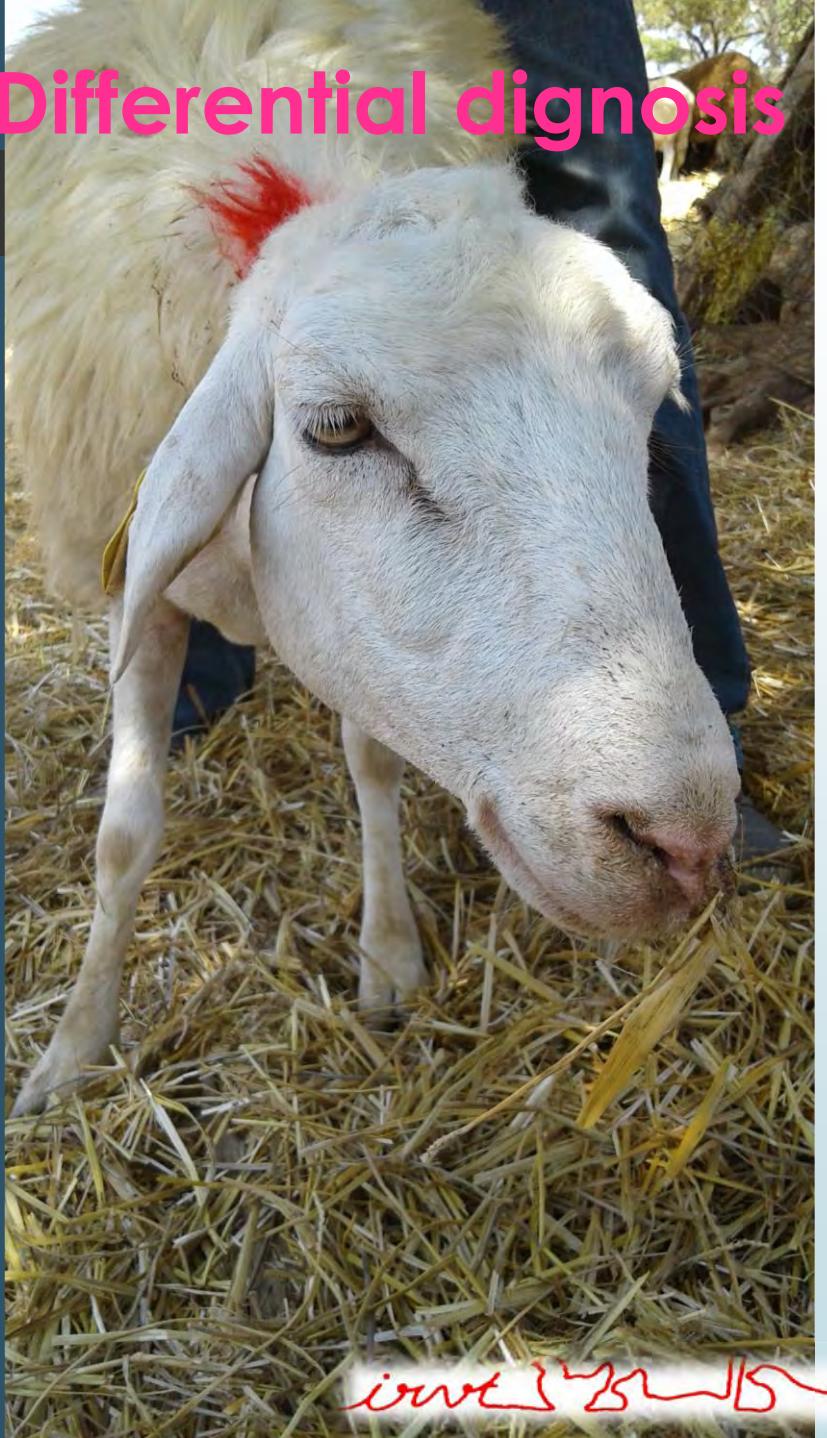


Photo Dr. Soufien Sghaier

inflammation

Differential diagnosis



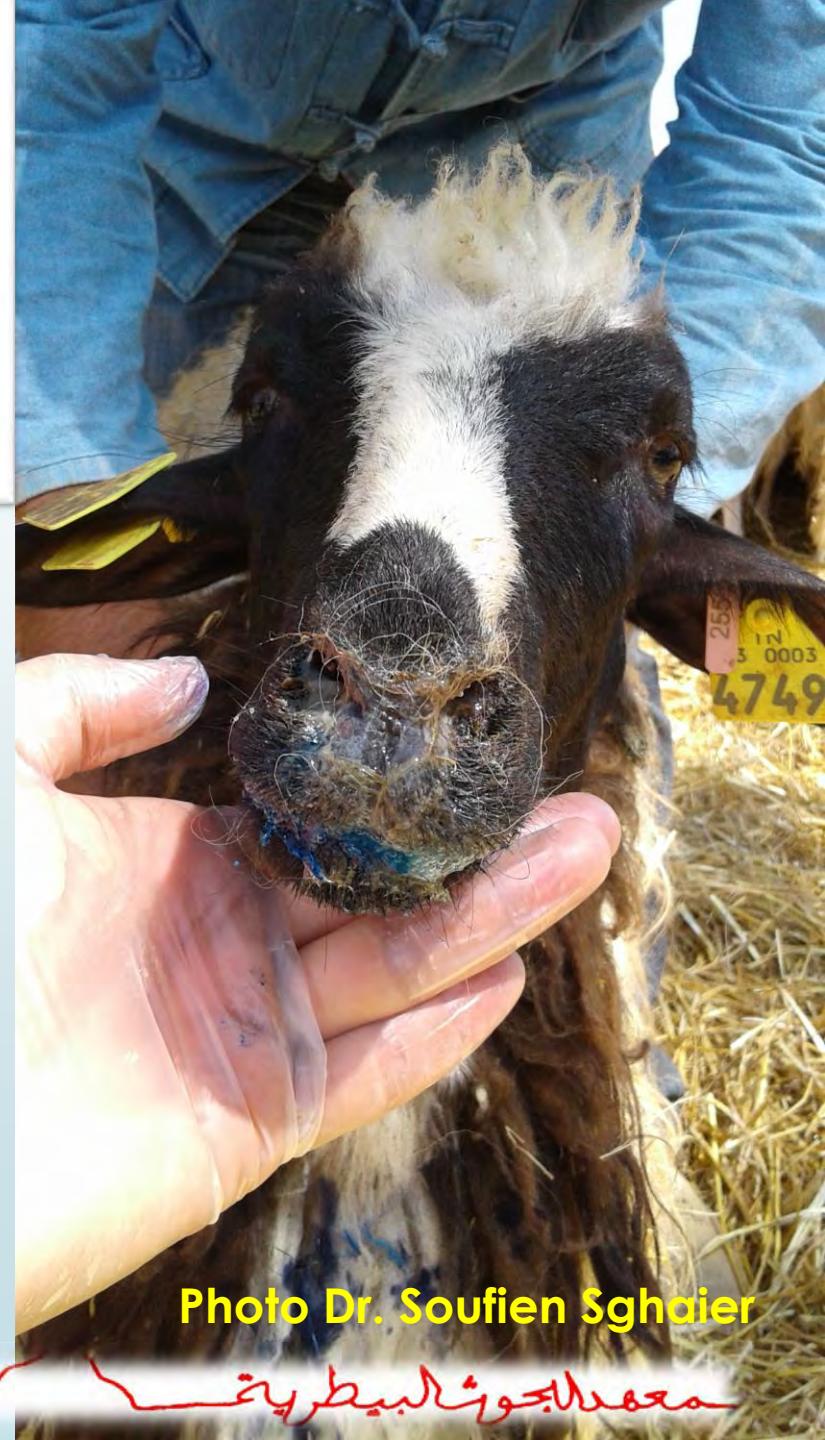
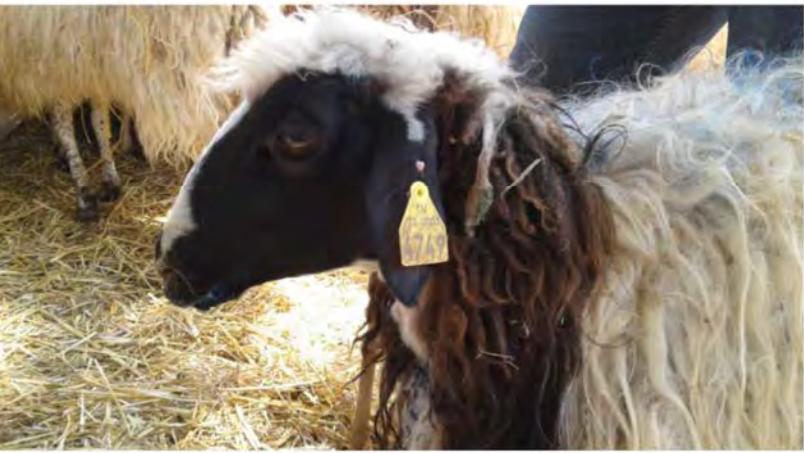
inflammation



Photo Dr. Soufien Sghaier

inflammation

Differential diagnosis



Differential diagnosis



Photo Dr. Soufien Sghaier

infectious
parasitic





inv 155



Photo Dr. Soufien Sghaier

aybarjane



inv 1515

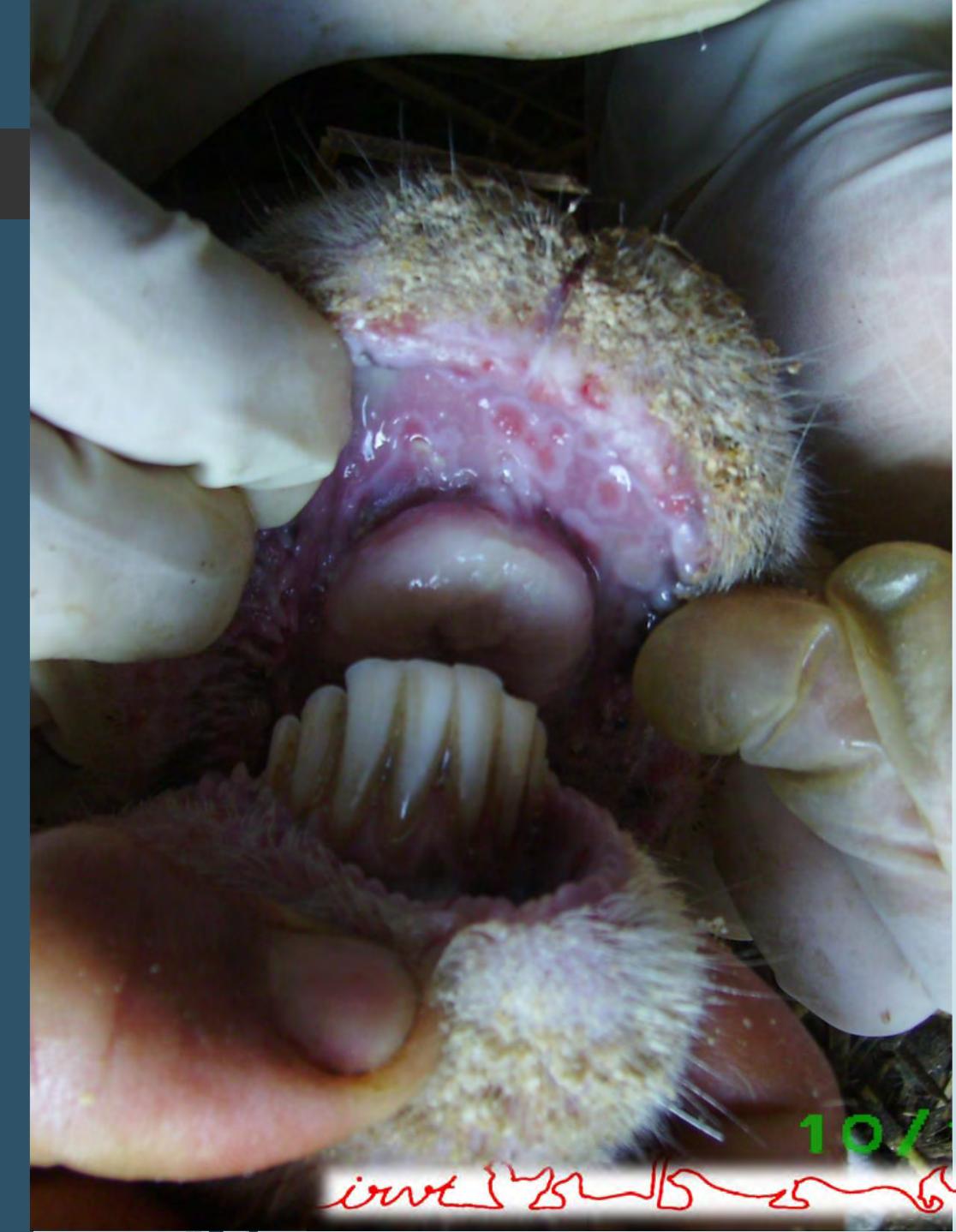
06/1



Photo Dr. Soufien Sghaier

06/10/200

inv 1515







مجهود طبیعی
استراتژی این



متحف الحيوانات في قطر

BTV/EHDV monitoring

- ✓ Identify and characterise BTV strains circulating in Tunisia



Réseau de veille et du contrôle sanitaire permanent



République Tunisienne
Ministère de L'agriculture, des Ressources
Hydrauliques et de la Pêche
Direction Générale Des Services Vétérinaires



NOTE DE SERVICE

NOTE DE SERVICE n° 200/2437 du 19/09/2017
établissant les modalités de contrôle sanitaire permanent de la Fièvre Catarrhale Ovine (FCO), la maladie épidézootique hémorragique des cervidés (EHD) et la Peste Equine (PE)

Dossier suivi par : HAJ AMMAR Heni, KHORCHANI Roukaya
Document élaboré par : Service des maladies animales et des zoonoses

Date de mise en application : immédiate
Date limite de réponse : néant
Nombre d'annexes : 10
Degré et période de confidentialité : plan de diffusion restreint aux destinataires

DESTINATAIRES

Pour exécution	Pour information
- Arrondissements de production animale - Chef d'arrondissement de production animale - Animateur régional de réseau de veille et contrôle sanitaire permanent - Laboratoires d'analyses : IRVT (Institut de la Recherche Vétérinaire de la Tunisie)	-CRDA

MOTS-CLES : FCO, EHD, PE, surveillance entomologique, surveillance sérologique, sentinelle, suspicion, confirmation

Document élaboré	Document Révisé	Document visé
Heni HAJ AMMAR Roukaya Khorchani	Wafa BEN HAMMOUDAHajer KILANI	DGSV

BTV/EHDV monitoring



Annexe 1: Répartition des tâches en fonction du type de surveillance et par gouvernorat

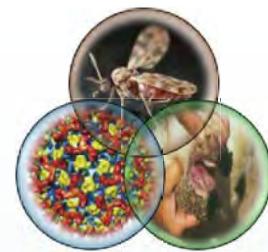
Gouvernorat	FCO/EHD			Peste équine				Binôme	Mois			
	S Évènementielle	S active sentinelle	Entomologie	S Évènementielle	S active sentinelle	Entomologie	enquête transversale		septembre	octobre	novembre	décembre
Ariana	X	X	X	X	X	X	X	A	S1	S1	S1	S1
Bizerte	X	X	X	X	X	X	X	A	S2	S2	S2	S2
La Manouba	X	X	X	X	X	X		B	S1	S1	S1	S1
Tunis	X			X	X	X		B	S2	S2	S2	S2
Kairouan	X	X	X	X	X	X	X	C	S1	S1	S1	S1
Kasserine	X	X	X	X			X	C	S2	S2	S2	S2
Gafsa	X	X	X	X	X	X	X	D	S1	S1	S1	S1
Tozeur	X		X	X		X		D	S2	S2	S2	S2
Siliana	X	X	X	X			X	E	S1	S1	S1	S1
Le kef	X	X	X	X	X	X		E	S2	S2	S2	S2
Gabes	X	X	X	X		X	X	F	S1	S1	S1	S1
Medenine	X	X	X	X	X	X		F	S2	S2	S2	S2
Jendouba	X	X	X	X		X	X	G	S1	S1	S1	S1
Beja	X	X	X	X		X	X	G	S2	S2	S2	S2
Nabeul	X	X	X	X	X	X	X	H	S1	S1	S1	S1
Sousse	X			X	X	X		H	S2	S2	S2	S2
Sidi Bouzid	X	X	X	X	X	X	X	I	S1	S1	S1	S1
Sfax	X			X	X	X		I	S2	S2	S2	S2
Monastir	X	X	X	X	X	X	X	J	S2	S2	S2	S2
Mahdia	X	X	X	X			X	J	S1	S1	S1	S1
Zaghouan	X			X			X	-				
Ben Arous	X			X				-				
Kebili	X			X				-				
Tataouine	X			X				-				

16 17



BTV/EHDV monitoring

	Delegation	September	October	November	December
Ariana	Soukra		0/10	1/9	0/9
Ariana	Sidi Thabet		0/12	8/12	6/12
Bizerte	Utique		0/10	0/10	0/10
Bizerte	Mateur		0/10	0/10	0/8
La Manouba	Mornagbia	1/10		0/10	0/10
La Manouba	Borj Amri	0/10		0/10	1/10
Kairouan	Sbikha	16/25		4/7	6/7
Kairouan	Nasrallah	0/20		8/20	
Kasserine	Laariche	0/10		0/10	0/10
Kasserine	Boulaaba	0/10		0/10	0/10
Gafsa	Gafsa Sud		2/6		
Gafsa	Gafsa Nord		0/2		
Siliana	Krib	0/16		0/10	0/10
Siliana	Siliana Sud	0/10		4/10	
Le kef	Le Sers Bousliaa	0/10		0/10	1/10
Le kef	Le Sers Elmarja	0/10		0/8	0/9
Gabes	Gbes Sud	0/11		0/8	0/8
Gabes	Gannouch	0/13		0/10	0/8
Medenine	Zarzis	0/7		0/3	
Jendouba	Bou Salem sommeizi	3/14		9/10	10/10
Jendouba	Bou Salem sedan	0/20		0/10	10/10
Beja	Testour	0/17		0/17	0/12
Nabeul	Tekelsa	7/16		3/5	
Sidi Bouzid	Sidi Bouzid EST	4/15			
Sidi Bouzid	Sidi Bouzid OUEST	4/15			
Monastir	Beni Hassen	19/19			
Monastir	Berri Hassen			10/13	
Monastir	Inavah			0/6 EHV	
Monastir	Ksibet madiouni				5/5 EHV
Monastir	Zarmdine				
Mahdia	Chiba	2/14		3674/3717 /17	

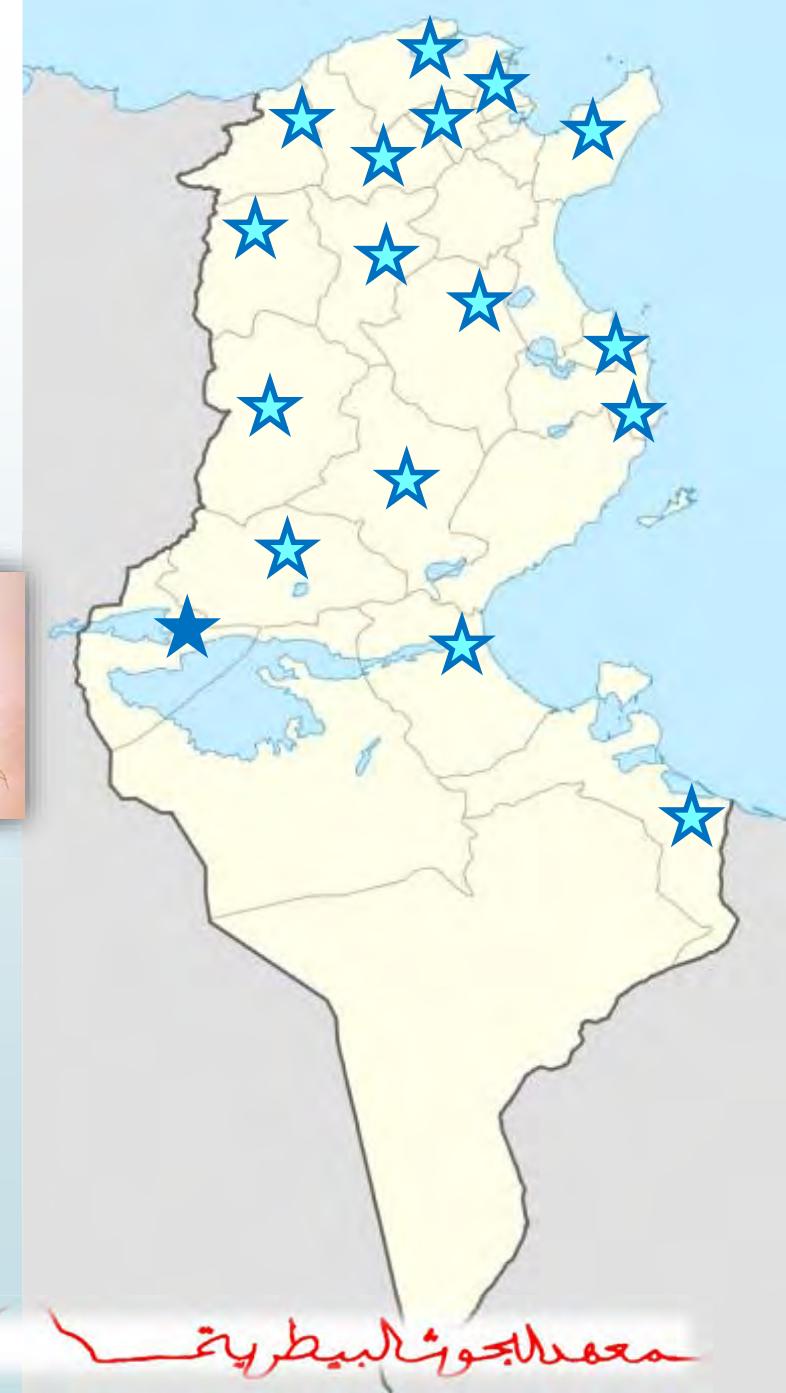


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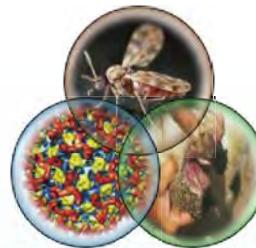
invent 2/14 3674/3717 /17

Entomology monitoring

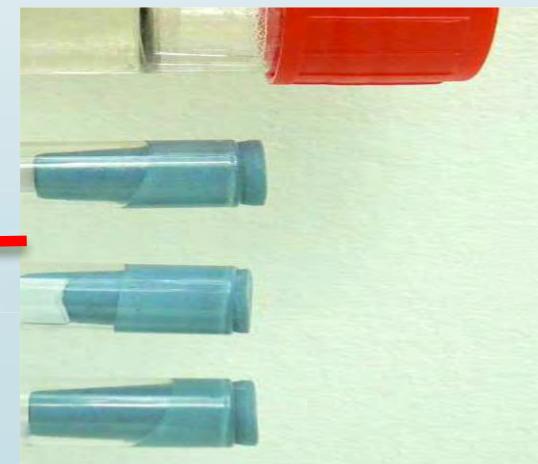
- 17 sampling sites were chosen throughout the country
- Two-night trapping of midges were performed in september, october, november and december 2017
- Black UV-light traps (OVI, South Africa)



Entomology monitoring

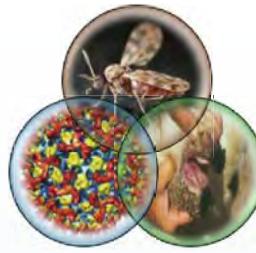


Identification



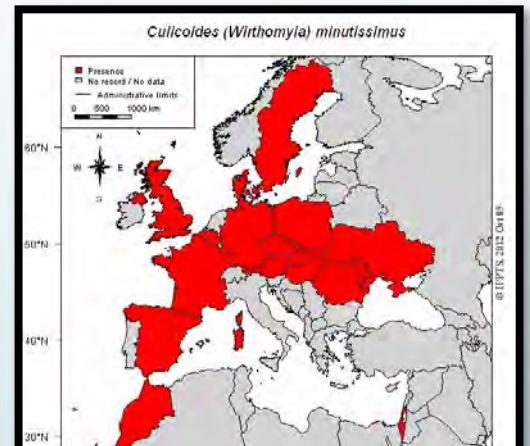
insects
insects

Entomology monitoring

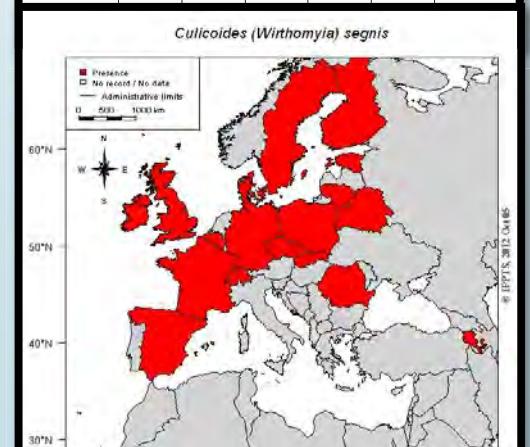
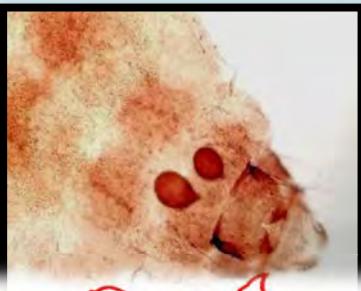


- During the period of monitoring, at least 13000 *Culicoides* were collected
- 4 *Culicoides* species are new for Tunisia fauna increasing the total number of *Culicoides* species reported in Tunisia to 39

1) *Culicoides (Wirthomyia) minutissimus* (site: Kasserine)



2) *Culicoides (Wirthomyia) segnis* (site: Kasserine)

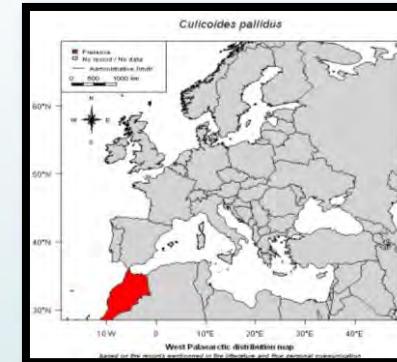
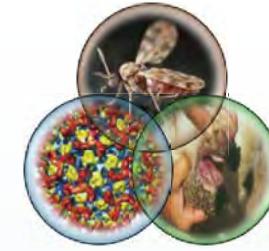
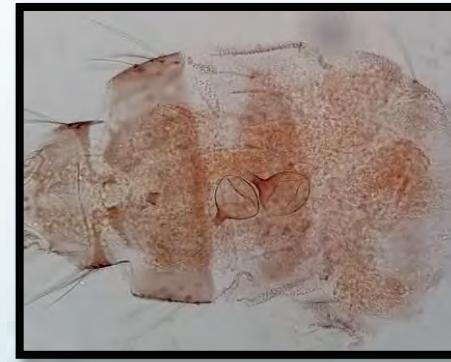


insect

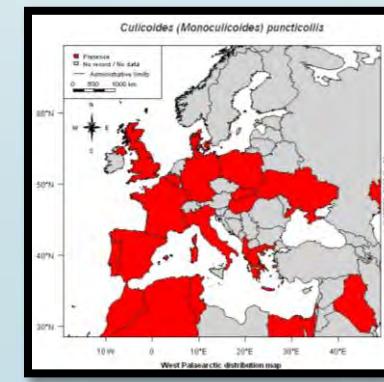
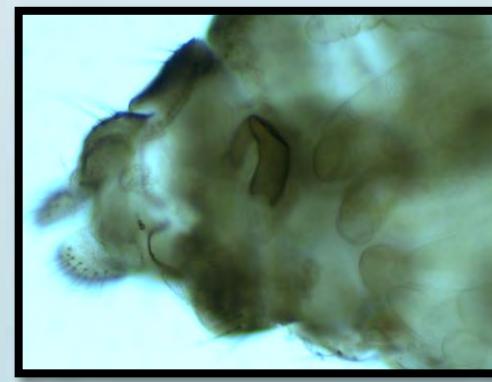
insect

Entomology monitoring

3) *Culicoides pallidus* Khalaf, 1957 (site: Kasserine)

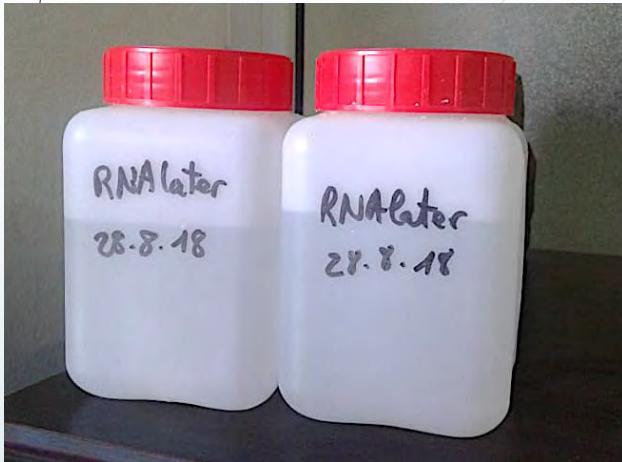


4) *Culicoides(Monoculicoides) puncticolis* var? (site: Ariana)



insectos
insecta
insectos
insecta

Comparison of the genetics and microbiome of *C. imicola*



in vitro bioassay
in vivo bioassay

CONCLUSIONS

- Importance de la collaboration avec les laboratoires de référence OIE (Jumelage OIE)
- Mise en place de nouvelles stratégies de surveillance
- Production de vaccin et banque antigènes
- Stratégie de vaccination avec zonage?!



introduction à la bioéthique

