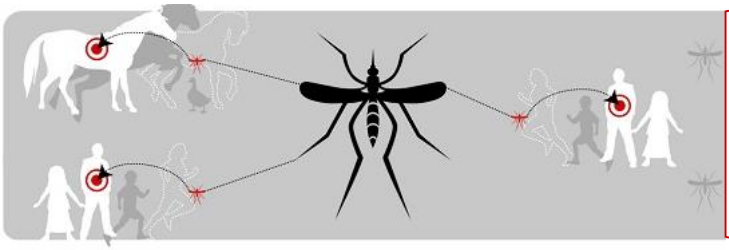

Integrated surveillance of West Nile and Usutu virus

Epidemiological report no. 16 5 November 2020
National data

1 In Evidence

This report summarizes the results of West Nile virus and the Usutu virus surveillance activities in Italy, updated to **4 November 2020.**

- Since June 2020 **68 confirmed human cases of West Nile Virus (WNV) infection have been reported in Italy,** 45 neuro-invasive (**34** in Lombardy, **5** in Emilia-Romagna, **4** in Piedmont, **2** in Veneto), **7** cases of WNF (4 in Lombardy, 1 in Piedmont, 2 in Veneto), **16** cases identified in blood donors (4 in Piedmont, 3 in Emilia-Romagna, 9 in Lombardy). 5 deaths were reported. In the same period it is The first case of Usutu virus has been reported in Veneto in the neuroinvasive form
- Veterinary surveillance confirmed the circulation of WNV lineage 2 in mosquitoes pool collected in **Emilia-Romagna, Piemonte, Veneto, Sardegna, Lombardia and Friuli Venezia Giulia.** Positivity is being confirmed in **Ancona** province.
- As of 29 October 2020, the EU Member States reported 308 human cases of WND which 36 deaths: 143 in Greece (of which 20deaths), 76 in Spain (including 7 deaths), 68 inItaly (including 5 deaths), 12 in Germany, 6 in Romania (including 1 death), 3 in Hungary, 1in Bulgaria and 1 in the Netherlands. No case reported by neighboring countries. (Fonte: ECDC 2019).

Figure 1. *Provinces where WNV has been detected in vectors, animals and humans (blood donor, fever and neuroinvasive cases)*

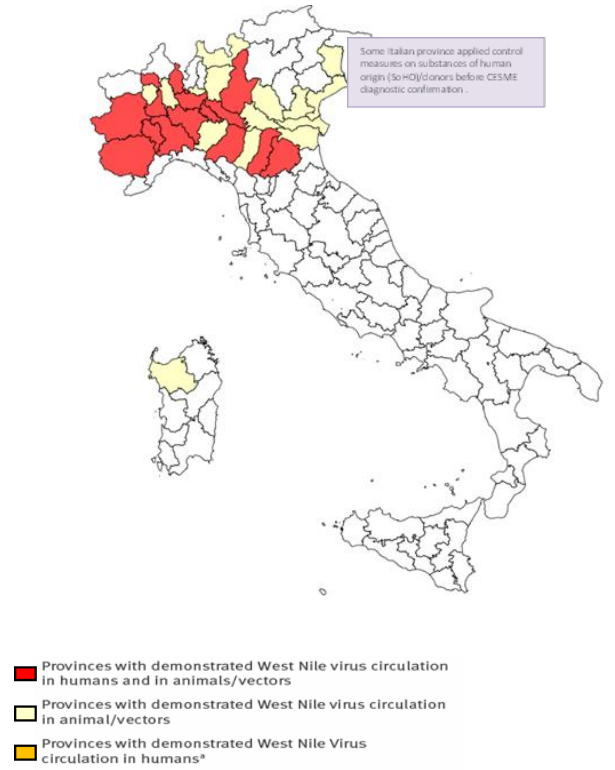

Figure 2. *Distribution of WNV human cases in EU*

2 Human

Since June 2020 57 confirmed human cases of West Nile Virus (WNV) infection have been reported in Italy, 39 neuro-invasive (28 in Lombardy, 5 in Emilia-Romagna, 4 in Piedmont, 2 in Veneto), 5 cases of WNF (3 in Lombardy, 1 in Piedmont, 1 in Veneto), 13 cases identified in blood donors (4 in Piedmont, 3 in Emilia-Romagna, 6 in Lombardy). 4 deaths were reported (1 Piedmont, 1 in Emilia-Romagna and 2 in Lombardy). In the same period it is The first case of Usutu virus has been reported in Veneto in the neuroinvasive form
Details about WND cases are provided below

Region/Province	Age group					Total
	<=14	15-44	45-64	65-74	>=75	
Emilia-Romagna						
Bologna			2			**2**
Modena				1		**1**
Parma					1	**1**
Piemonte						
Alessandria			1		1	**2**
Novara				1		**1**
Vercelli			1			**1**
Lombardia						
Brescia				1		**1**
Cremona				2	1	**3**
Lodi		1	2	3	5	**11**
Mantova			1			**1**
Milano			3	3	2	**8**
Pavia			1		3	**4**
Varese				1		**1**
Veneto						
Venezia					1	**1**
Verona			1			**1**
Total	**0**	**1**	**12**	**12**	**14**	**39**

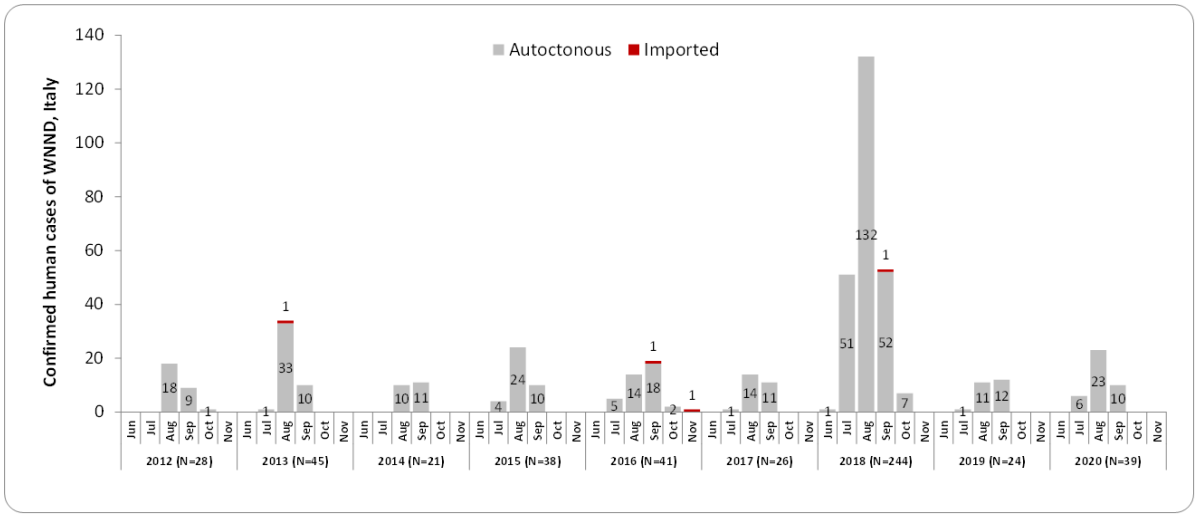

Figure 1 Trend of confirmed cases of WNND per month onset symptoms. Italy: **2012 - 2020**.

3 Horses

11 WND outbreaks have been confirmed by the National Reference Centre for exotic diseases (CESME) in **Lombardia, Emilia Romagna, Piemonte** and **Sardegna**.

Figure 2 Geographical distribution of West Nile Disease outbreaks in horses -**2020**

Regione	Province	N. Outbreaks	N. Clinical Outbreaks	Horses in outbreaks				Prevalence	Clinical prevalence	Letality
				Suscetible	Total cases	Clinical cases	Death/Killed			
LOMBARDIA	BERGAMO	2	2	54	2	2	0	0,030%	0,030%	0
	CREMONA	2	2	5	2	2	0	0,400%	0,400%	0
	BRESCIA	2	2	110	4	4	1	0,04%	0,04%	0,25%
SARDEGNA	SASSARI	1	1	7	1	1	0	0,140%	0,140%	0
PIEMONTE	TORINO	1	1	17	1	1	0	0,050%	0,050%	0
EMILIA ROMAGNA	MODENA	1	1	31	1	1	0	0,030%	0,030%	0
	PIACENZA	2	2	50	2	2	1	0,040%	0,040%	50%

Table 2 Outbreaks and cases of WND in horses- **2020**

4 Resident birds of target species

CESME confirmed WND **106** cases in resident birds of target species in **Piemonte, Lombardia, Sardegna, Veneto and Emilia Romagna** regions. The circulating strains belong to **Lineage 2.**

The target species for the surveillance are :

- **Magpie (*Pica pica*)**
- **Carrion crow (*Corvus corone cornix*)**
- **Eurasian jay (*Garrulus glandarius)***

Figure 3 Geographical distribution West Nile virus detection in resident birds of target species - **2020**

Region	Province	Carrion Crow	Magpie	Jay	Total
EMILIA ROMAGNA	BOLOGNA		1		1
	FERRARA		14		14
	MODENA		1		1
	PIACENZA	4			4
	PARMA	1	5		6
	REGGIO EMILIA	1	3		4
LOMBARDIA	BERGAMO	4	1		5
	BRESCIA	4			4
	LODI		4		4
	MONZA E BRIANZA		1		1
	MILANO	5	5		10
	MANTOVA	1	2		3
	PAVIA	3			3
	SONDRIO	1		2	3
	VARESE	1			1
PIEMONTE	ALESSANDRIA		1		1
	BIELLA	1			1
	CUNEO	8	12		20
	TORINO	12			12
	VERBANIA	2			2
SARDEGNA	SASSARI	3			3
VENETO	VENEZIA		1		1
	VERONA		2		2
Total		51	53	2	106

Table 3 West Nile virus detection in resident birds to target species- **2020**

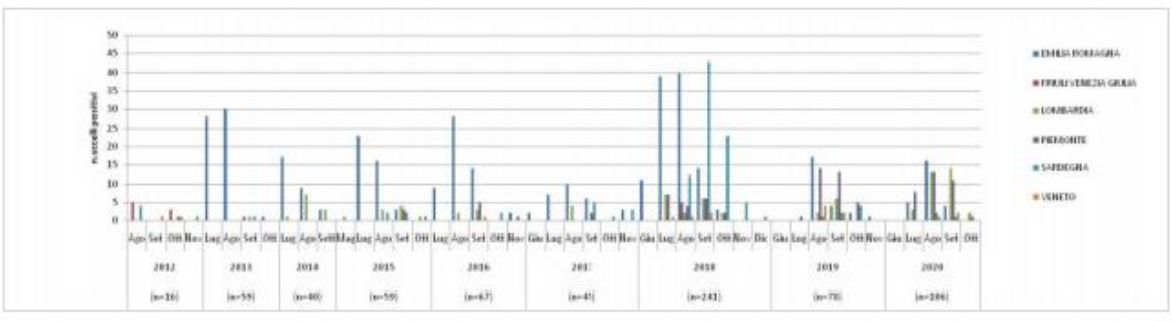

Figure 4 Spatio–temporal distribution West Nile virus detection in resident birds of target species - **2020**

5 Wild birds

CESME confirmed **26** WND cases in wild birds in **Veneto, Emilia Romagna, Piemonte and Lombardia** regions. Molecular test classified the viral strain within **Lineage 2**.

REGION	PROVINCE	n.birds
EMILIA ROMAGNA	BOLOGNA	4
	FORLI-CESENA	6
	PIACENZA	1
	FERRARA	5
	RAVENNA	1
	PARMA	1
	PIACENZA	1
	RIMINI	3
VENETO	PADOVA	1
	VICENZA	1
	VENEZIA	1
PIEMONTE	CUNEO	1
Total		26

Table 4 WND cases in wild birds - **2020**

Figure 5 Geographical distribution West Nile virus detection in wild birds- **2020**

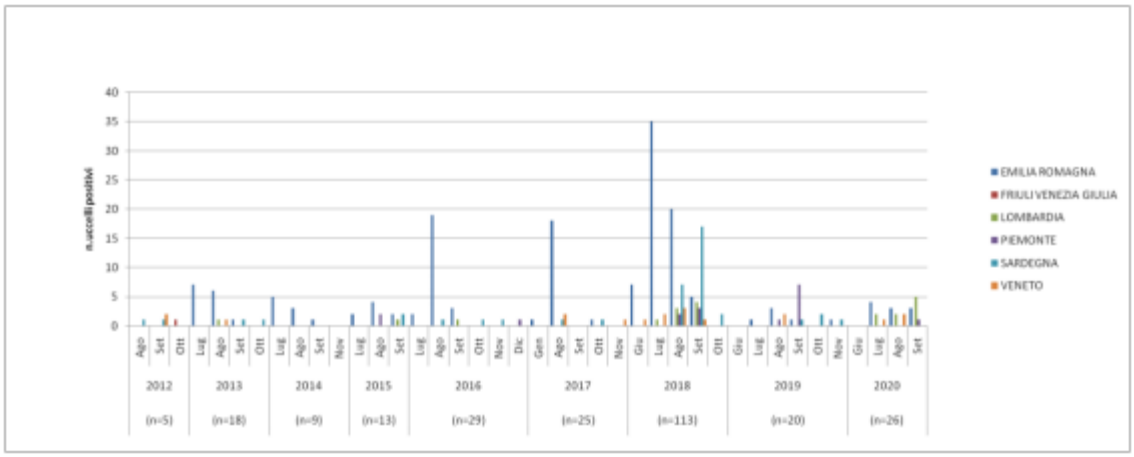

Figure 6 Spatio–temporal distribution West Nile virus detection in wild birds- **2020**

6 Entomological surveillance

WNV genome has been reported in **77** mosquito **pools** collected in **Emilia Romagna, Piemonte, Veneto, Friuli Venezia Giulia** and **Lombardia** regions**.** The circulating strains belong to **Lineage 2**.

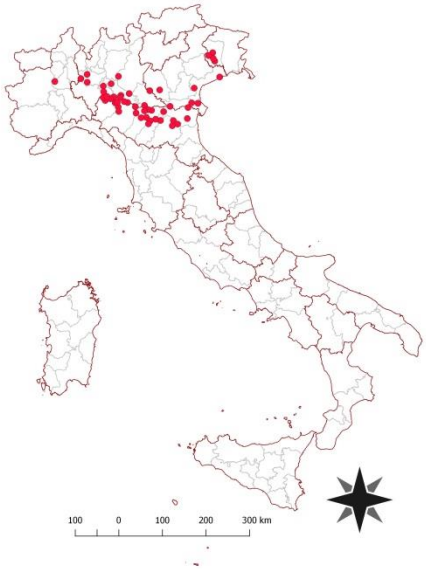

Figure 7 Geographical distribution West Nile virus detection in mosquitoes - **2020**

REGION	PROVINCE	n.pool
EMILIA ROMAGNA	FERRARA	2
	BOLOGNA	6
	MODENA	6
	PARMA	8
	PIACENZA	17
	REGGIO EMILIA	8
LOMBARDIA	BRESCIA	1
	CREMONA	3
	LODI	3
	MILANO	2
PIEMONTE	VERCELLI	1
	NOVARA	1
VENETO	VERONA	9
	VENEZIA	2
	ROVIGO	3
FRIULI VENEZIA GIULIA	PORDENONE	5
Total		77

Table 5 West Nile virus detection in mosquitoes- **2020**

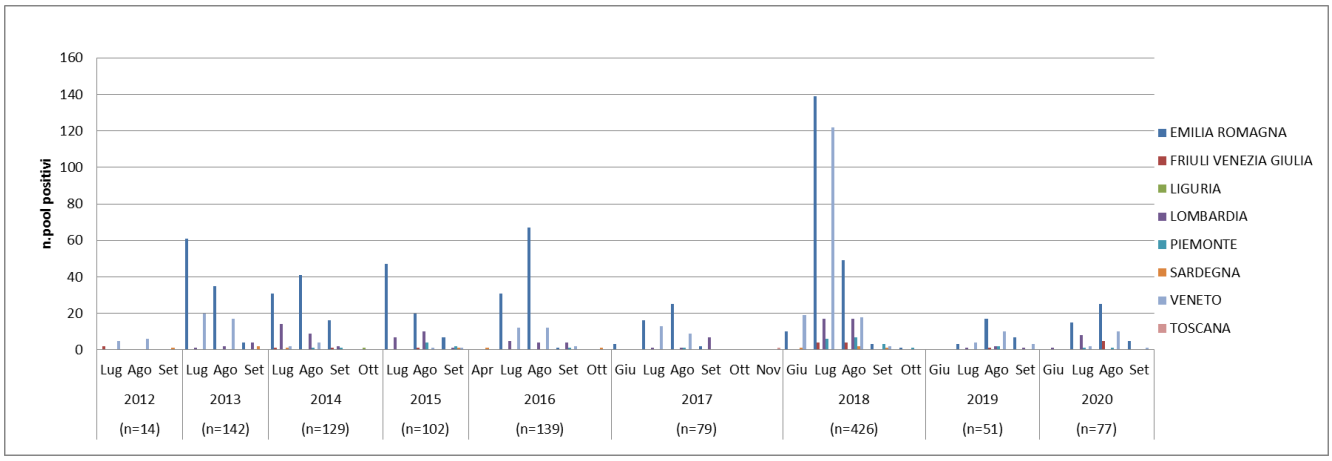

Figure 8 Spatio–temporal distribution West Nile virus detection in mosquitoes - **2020**

7

Poultry surveillance

- **No WND outbreaks have been confirmed in poultry flocks**.



8 USUTU virus surveillance

Usutu virus has been detected in **113** mosquitoes pools and **62** bird in **Emilia-Romagna, Friuli Venezia Giulia, Piemonte, Abruzzo, Molise, Sardegna,San Marino , Marche and Veneto** regions.

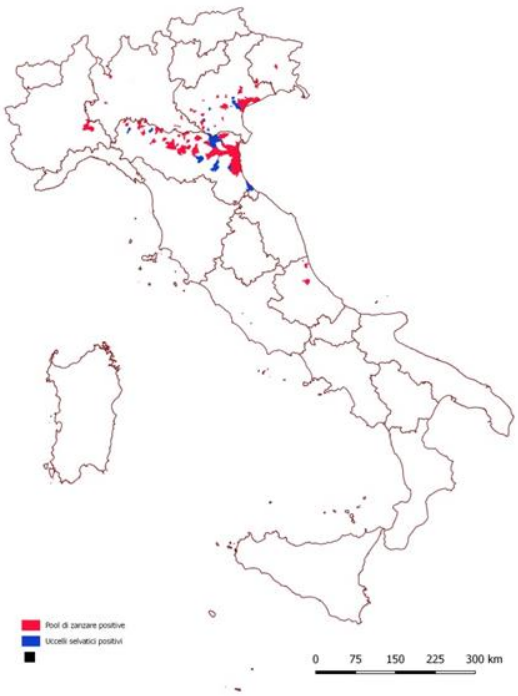

Figure 9 Geographical distribution Usutu virus detection in birds and mosquitoes - **2020**

REGION	PROVINCE	n.pool
EMILIA ROMAGNA	BOLOGNA	10
	FERRARA	9
	FORLI-CESENA	2
	MODENA	20
	PARMA	6
	PIACENZA	10
	RAVENNA	3
	REGGIO EMILIA	13
FRIULI VENEZIA GIULIA	PORDENONE	1
	UDINE	1
PIEMONTE	NOVARA	1
	ALESSANDRIA	1
VENETO	PADOVA	8
	ROVIGO	2
	TREVISO	2
	VICENZA	1
	VERONA	8
	VENEZIA	3
LOMBARDIA	COMO	1
	MANTOVA	2
	MILANO	1
ABRUZZO	TERAMO	2
	PESCARA	1
MOLISE	ISERNIA	2
	CAMPOBASSO	1
SARDEGNA	SASSARI	1
SAN MARINO	SAN MARINO	1
Total		113

Table 6 Usutu virus detection in mosquitoes **-2020**

REGIONE	PROVINCIA	n.capi
EMILIA ROMAGNA	BOLOGNA	18
	FORLI-CESENA	6
	FERRARA	15
	RAVENNA	2
	PARMA	1
	PIACENZA	1
	RIMINI	5
VENETO	PADOVA	2
	VICENZA	1
	ROVIGO	1
	VERONA	2
	VENEZIA	4
LOMBARDIA	VARESE	1
	MILANO	1
MARCHE	MACERATA	2
Totale		62

Table 7 Usutu virus detection in birds - **2020**

9 National Plan for Prevention, Surveillance and Response to Arbovirus 2020-2025

West Nile (WNV) and Usutu (USUV) viruses surveillance activities since 2020 are included in the National Plan for Prevention, Surveillance and Response to Arbovirus 2020-2025.

The Plan integrates in a unique document the surveillance measures to be implemented at the national level for autochthonous and imported arboviruses, promoting a multidisciplinary approach in the management of surveillance and control activities.

More details about the integrated surveillance plan are available on the complete document «National Plan for Prevention, Surveillance and Response to Arbovirus 2020-2025.»

National Human surveillance activities are coordinated by the National Institute of Health (Istituto Superiore di Sanità, ISS) and the Ministry of Health is responsible to provide surveillance data to the European Commission and to ECDC. Moreover regions can implement normative-programmatic documents for the epidemiological and laboratory surveillance on their territory according to National legislation and guidelines provided by the Ministry of Health .

Veterinary surveillance activities are coordinated by the National Reference Center for the exotic diseases of animals (CESME) which harmonize the diagnostic procedures within the network of IIZZSS national laboratories and confirms suspected specimens. CESME is also in charge for the veterinary surveillance data management, collection and communication to the Ministry of Health according to the data flow reported in the Plan.

Useful links

- Web page of National Institute of Health
- Web page of Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale" (CESME)
- Directions of the National Italian Blood Center
- Directions of the National Italian Transplant Center
- Web page of the Italian Ministry of Health
- Web page of ECDC

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