

Integrated surveillance of West Nile and Usutu virus

Epidemiological report no. 5 20 July 2022
National data

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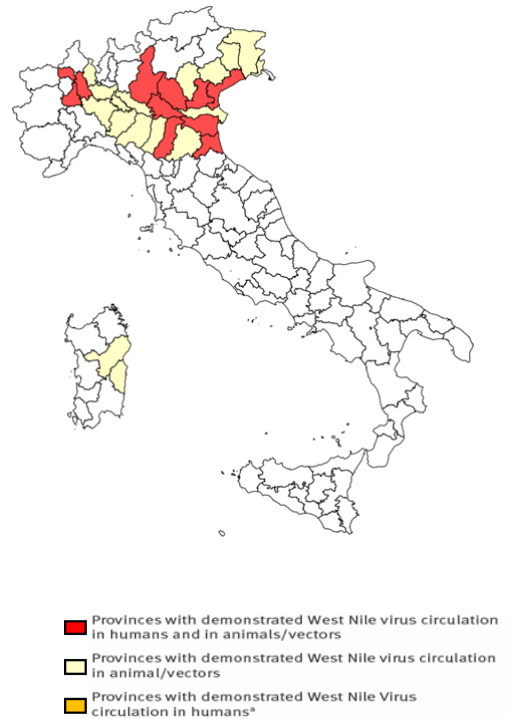
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In Evidence

This report summarizes the results of West Nile virus and the Usutu virus surveillance activities in Italy, updated to **19-7-2022**

- Since June 2022, **15** confirmed cases of West Nile Virus (WNV) infection in humans have been reported in Italy; of these **9** occurred in the neuro-invasive form (4 Emilia-Romagna, 3 Veneto, 2 Piemonte), 5 cases identified in blood donors (2 Lombardia, 3 Veneto) and 1 symptomatic case (1 Veneto). The first human case of the season was reported by Veneto in June in the province of Padova. Four deaths were reported among the confirmed cases (2 in Veneto, 1 in Piemonte and 1 in Emilia-Romagna). In addition to the cases described above, three neuro-invasive cases are being confirmed in Veneto, two of which have died. In the same period, no cases of Usutu virus were reported.
- Surveillance in mosquitoes, resident birds, wild birds, poultry and horses confirmed the circulation of WNV in **Veneto, Emilia Romagna, Lombardia, Friuli Venezia Giulia and Sardegna** region. Molecular analysis confirmed **Lineage 2** and **Lineage 1** circulation.
- As of 13 July 2022, European Union (EU), European Economic Area (EEA) and EU-neighbouring countries reported 1 human cases of West Nile virus (WNV) infection from Greece and 1 from Italy ([Source: ECDC 2022](#)).

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



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Human

Since June 2022, 15 cases confirmed by West Nile Virus (WNV) have been reported in Italy, 9 of which showed neuro-invasive symptoms (Table 1) all autochthonous cases, 5 identified in blood donors (1 Brescia , 1 Mantua, 1 Padua, 1 Verona, 1 Venice) and 1 symptomatic case (1 Padua). Below is a description of the neuro-invasive forms only

Region/Province	Age group					Total
	<=14	15-44	45-64	65-74	>=75	
Emilia-Romagna						
<i>Ferrara</i>					1	1
<i>Modena</i>				1	1	2
<i>Ravenna</i>					1	1
Piemonte						
<i>Novara</i>					1	1
<i>Vercelli</i>				1		1
Veneto						
<i>Padova</i>				1	2	3
Total	0	0	0	3	6	9

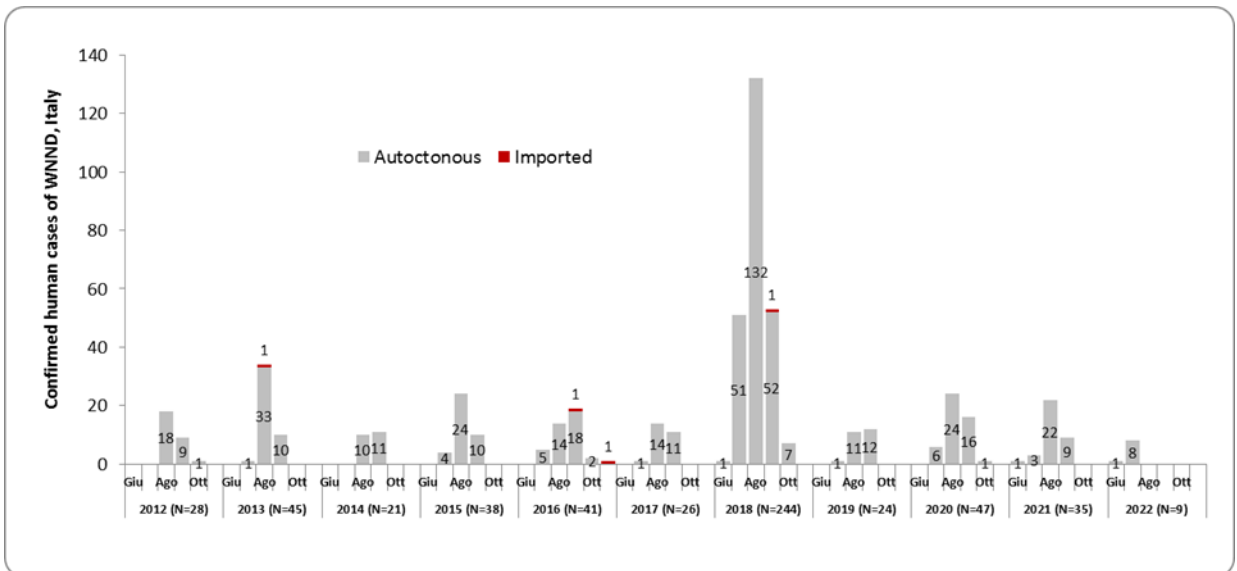


Figure 1. Trend of confirmed cases of WNND by month onset of symptoms. Italy: 2012 - 2022.

3

Horses

No WND outbreaks have been confirmed in equids.

4

Resident birds of target species

CESME confirmed WNV in 4 resident birds belong to target species from **Emilia Romagna and Veneto** region. 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*)**



Region	Province	Carrion Crow	Magpie	Jay	n.birds+
EMILIA ROMAGNA	Reggio Emilia	2	1	0	3
VENETO	Rovigo	1	0	0	1
Total		3	1	0	4

Table 1 West Nile virus detection in birds belong to target species- **2022**

Figure 1 Geographical distribution West Nile virus detection in birds belong to target species - **2022**

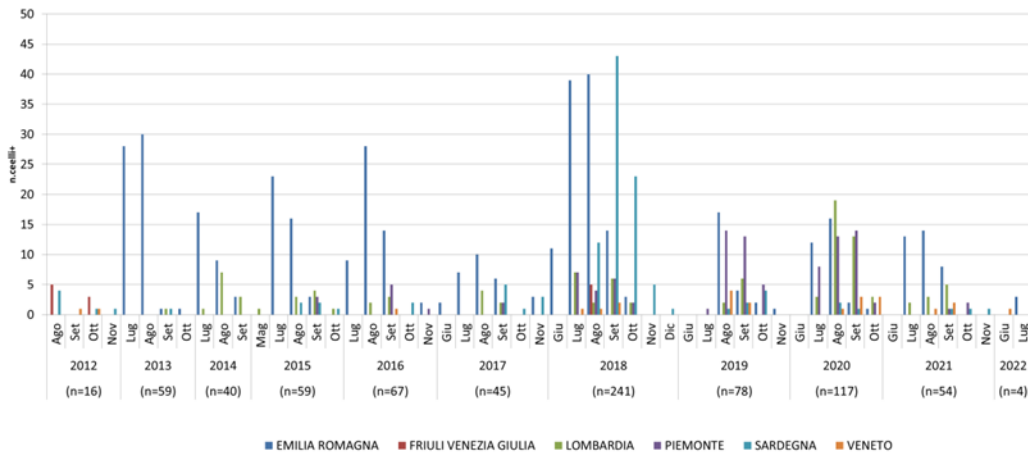


Figure 2 Spatio-temporal distribution West Nile virus detection in birds belong to target species - **2022**

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Wild birds

CESME confirmed WNV in 2 wild birds from **Veneto and Sardegna** region. The circulating strains belong to **Lineage 1 and Lineage 2**.



Region	Province	Species	n.birds+
SARDEGNA	Nuoro	Gheppio	1
VENETO	Venezia	Corvo	1
Total			2

Table 2 West Nile virus detection in wild birds - **2022**

Figure 3 Geographical distribution West Nile virus detection in wild birds- **2022**

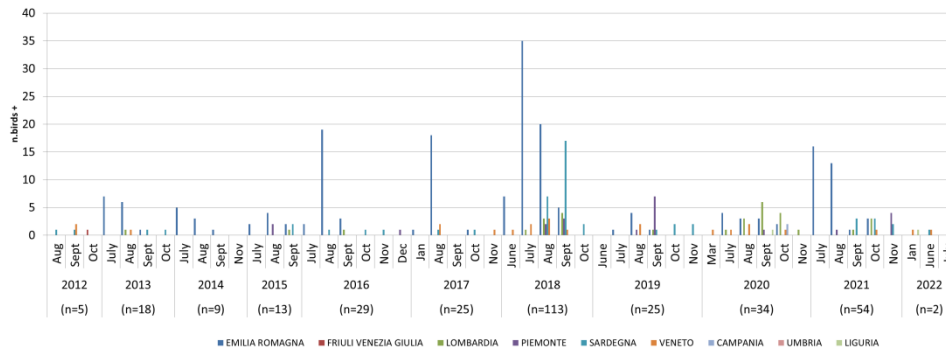


Figure 4 Spatio-temporal distribution West Nile virus detection in wild birds - **2022**

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Entomological surveillance

WNV genome has been reported in **31 mosquitoes pool** collected in **Veneto, Emilia Romagna, Friuli Venezia Giulia and Lombardia** region. The circulating strains belong to **Lineage 1 and Lineage 2**.



Region	Province	n.pool+
EMILIA ROMAGNA	Modena	4
	Piacenza	2
	Parma	2
	Reggio Emilia	3
LOMBARDIA	Lodi	1
	Brescia	2
	Pavia	2
	Mantova	1
VENETO	Rovigo	3
	Venezia	2
	Verona	1
	Padova	3
	Vicenza	2
FRIULI VENEZIA GIULIA	Udine	1
	Gorizia	1
	Pordenone	1
Total		31

Table 3 West Nile virus detection in mosquitoes- **2022**

Figure 5 Geographical distribution West Nile virus detection in mosquitoes - **2022**

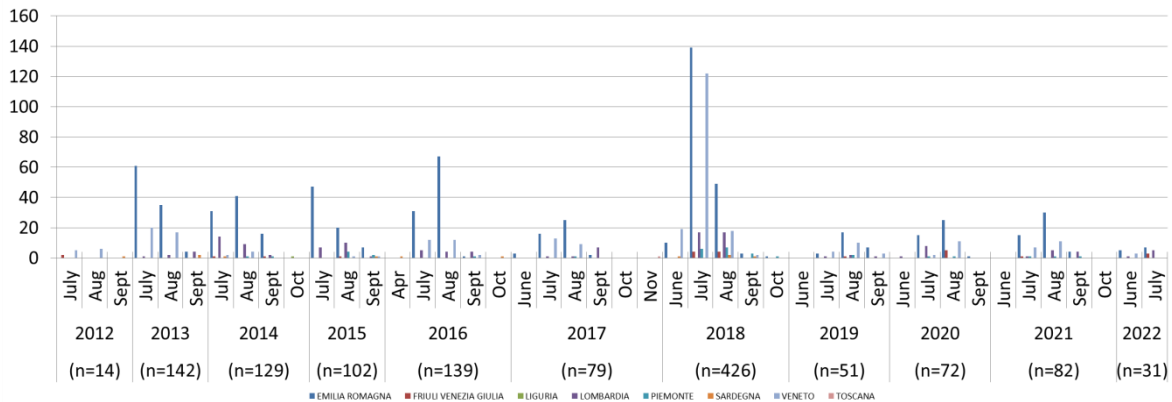


Figure 6 Spatio-temporal distribution West Nile virus detection in mosquitoes - **2022**

7

Poultry surveillance

- No WND outbreaks have been confirmed in poultry flocks.



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USUTU virus surveillance

Usutu virus has been detected in **5** mosquitoes pool from **Marche and Emilia Romagna** regions.



Region	Province	n.pool+
MARCHE	Pesaro e Urbino	1
	Macerata	1
EMILIA ROMAGNA	Modena	2
	Reggio Emilia	1
Total		5

Table 4 Usutu virus detection in mosquitoes -2022

Figure 7 Geographical distribution Usutu virus detection in birds and mosquitoes - 2022

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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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