

West Nile outbreak in horses in Southern France: September 2004

Hervé Zeller¹ (zeller@cervi-lyon.inserm.fr), Stéphan Zientara², Jean Hars³, Jérôme Languille⁴, Alexandra Mailles⁵, H. Tolou⁶, Marie-Claire Paty⁷, Francis Schaffner⁸, Alexis Armengaud⁹, Pierre Gaillan¹⁰, Jean-François Legras¹¹, Pascal Hendrikx¹²

¹Centre National de Référence des Arbovirus;

²Agence Française de Sécurité Sanitaire des Aliments;

³Office National de la Chasse et de la Faune Sauvage;

⁴Direction Générale de l'Alimentation;

⁵Institut National de Veille Sanitaire;

⁶Laboratoire des Arbovirus des Services de Santé des Armées;

⁷Direction Générale de la Santé;

⁸Entente Interdépartementale de Démoustication Méditerranée;

⁹Cellule Inter-Régionale d'Épidémiologie Sud;

¹⁰Agence française de sécurité sanitaire des produits de santé;

¹¹Etablissement Français du Sang;

¹²Direction Départementale des Services Vétérinaires du Gard.

On 28 August 2004 (week 35), two suspected clinical cases of West Nile virus (WNV) infection in horses were identified by veterinarians in Saintes-Maries de la Mer, in the Camargue region of southeastern France (Figure 1). ELISA tests were performed on blood specimens from these horses by the Agence Française de Sécurité Sanitaire des Aliments (the French food safety agency), and WNV IgM and IgG antibodies were detected on 10 September. An alert was sent to the national authorities on 13 September 2004.

By 30 September 2004 (week 40), 37 suspected cases in horses, including 4 fatalities or euthanasia, were reported. Fourteen of the 18 horses tested were positive for WNV (WNV IgM detection or positive RT-PCR) (Figure 2). The most common clinical symptoms were fever, prostration, anorexia, ataxia, paresis and irritability. The Centre National de Référence des Arbovirus (national reference centre for arboviruses) in Lyon confirmed the presence of specific neutralising antibodies in 3 cases (PRNT80 titre >160).

Figure 1. Location of the West Nile outbreaks in France in 2003 and 2004.

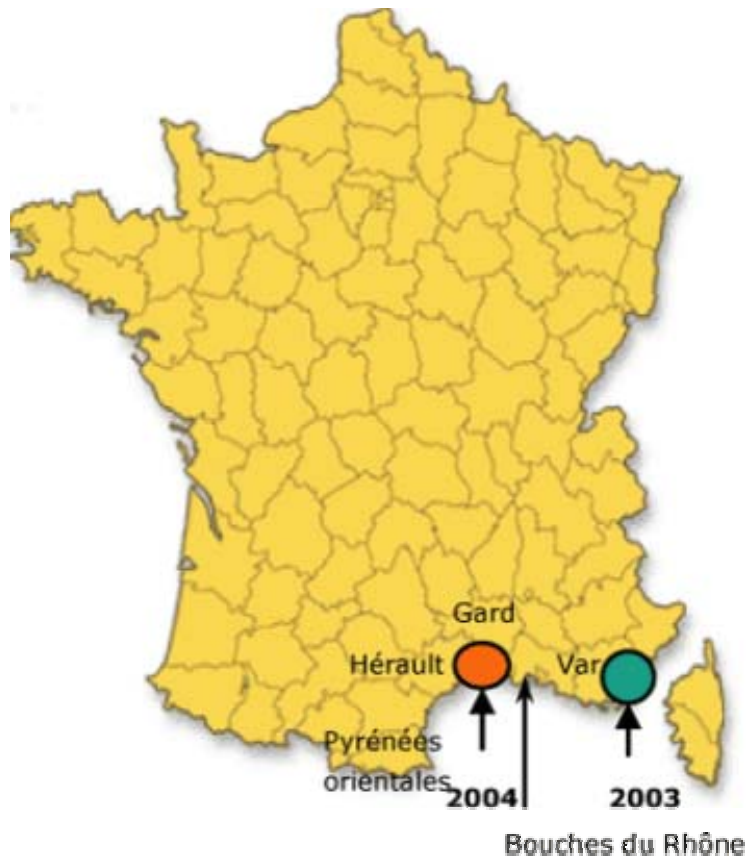
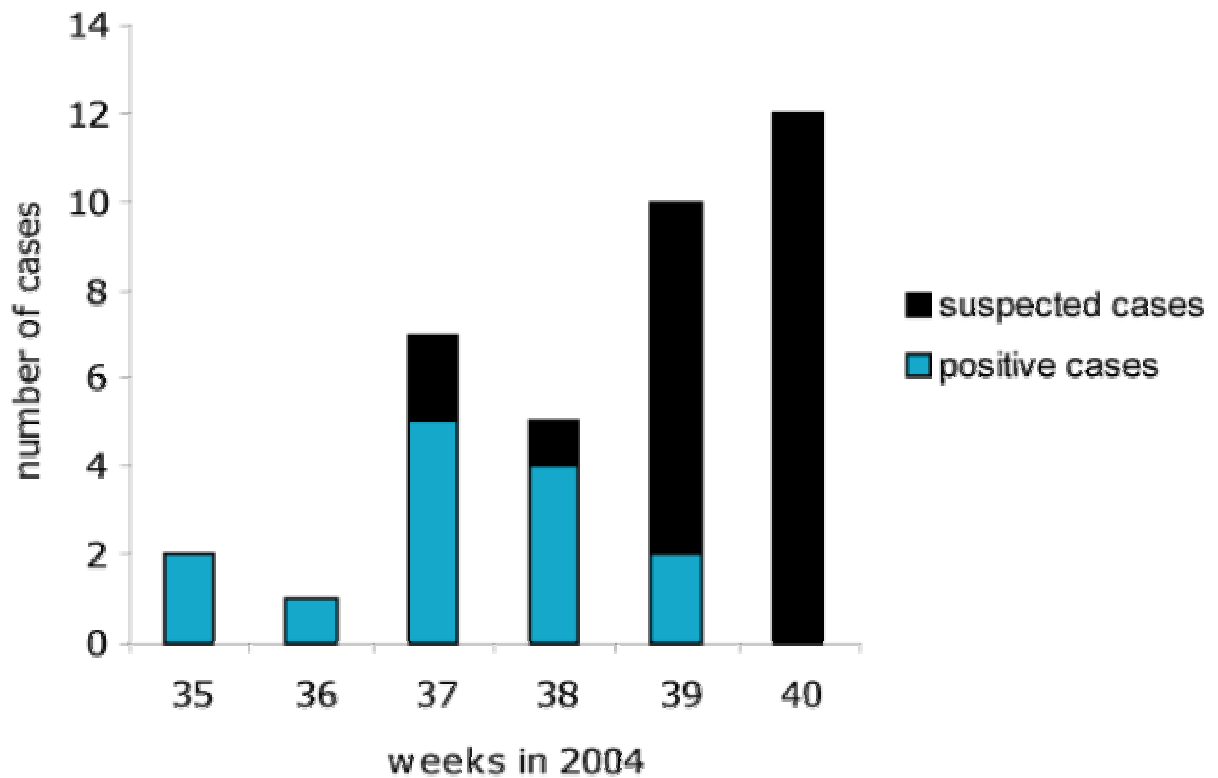


Figure 2. Suspected and confirmed equine cases of West Nile infection in the Camargue region, France, reported from 27 August (week 35) to 30 September 2004 (week 40).



The suspected cases were distributed over an area extending about 35km west and north from the initial focus, Saintes-Maries de la Mer. Saintes-Maries de la Mer is situated in the Rhône delta where migrating and resident birds are numerous. The infected area covered around the same region where a previous WNV outbreak in horses occurred in 2000 (131 suspected cases/76 confirmed cases from late August until early November) [1]. No human cases were reported in 2000 and none in 2004 by week 39.

After the 2000 outbreak, an integrated programme of WNV surveillance involving partners from the ministries of agriculture, public health and the environment, as well as local agencies, was initiated. It covered 3 départements: Hérault, Gard and Bouches du Rhône [2]. Sentinel birds (chicken and ducks) were tested for WNV antibody detection on a regular basis. Suspected cases in horses and humans were tested for WNV infection. Dead wild birds were collected for WNV testing. Because of the limited WNV outbreak in Frejus (in the Var department, 200 km east of the Camargue) in 2003 which involved 7 human cases (3 encephalitis and 4 cases of febrile illness) and 4 equine cases, the 2004 sentinel bird surveillance programme was extended along the Mediterranean coast to cover 6 départements from the eastern Pyrénées to the Var, as well as the report of suspected cases in humans and horses [3].

A low level of WNV activity was reported in the Camargue region in sentinel birds: one seroconversion in 2001, one in 2002 and none in 2003. In late July 2004, a WNV seroconversion was reported in a sentinel chicken from Saintes-Maries de la Mer, and a second seroconversion was reported in mid-August at the same location. On 6 September 2004, two thirds of the sentinel birds from this flock were positive for WNV antibodies. A sentinel duck was reported to be positive for WNV on 16 August (infection confirmed on 7 September 2004) in Saint-Just, Hérault.

Following the alert on 13 September several measures were taken:

- Increased surveillance for detection of suspected cases in human and equine populations
- Entomological studies at areas where infected horses have been found
- A restriction on blood donations from individuals living in or with history of travel to the infected area until the end of October 2004

An absence of WNV viral genome was reported in a retrospective study on 789 blood donations collected from donors in the infected region from the beginning of August 2004 to mid-September.

References:

1. Murgue B, Murri S, Zientara S, Labie J, Durand B, Durand JP, et al. West Nile outbreak in horses in southern France, 2000: the return after 35 years. *Emerg Inf Dis* 2001; 7(4):692-6. (<http://www.cdc.gov/ncidod/eid/vol7no4/murgue.htm>)
2. Hars J, Pradel J, Auge P, Chavernac D, Gerbier G, Roger F, et al. Programme de surveillance de l'infection de l'avifaune par le virus West Nile en 2003 dans la Petite et la Grande Camargue. Rapport ONCFS/DGAI. 2004; 23
3. Mailles A, Dellamonica P, Zeller H, Durand JP, Zientara S, Goffette R et al. Human and equine West Nile virus infections in France, August-September 2003. *Eurosurveillance Weekly* 2003; 7(43):23/10/2003 (<http://www.eurosurveillance.org/ew/2003/031023.asp#1>)