Citation Information for: Can existing data on WNV infection in birds and mosquitos explain strain replacement?

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Notes on methodological decisions and oddities found in data extraction and full citation list sorted by data type

Titer and Survival

(Brault et al., 2004)

* An error bar on titer when there appeared to be only one surviving bird

* Overlapping error bars due to a lack of jitter. Measured carefully to connect error to the appropriate means

* No dates given for host capture (or dates overlooked if given).

* After-hatch-year birds

* No sex given

(Brault et al., 2007)

* After-hatch-year birds

* No sex given

(Brault et al., 2011)

* An error bar on titer when there appeared to be only one surviving bird

* Overlapping error bars due to a lack of jitter. Measured carefully to connect error to the appropriate means

* No dates given for host capture (or dates overlooked if given).

* No age given

* No sex given

(Clark et al., 2006)

* Birds were determined to be hatch-year birds by weight and plumage

* No sex given

(Duggal et al., 2014)

* Infection profiles of individual birds received from Dr. Nisha Duggal

* SW03 genotypes treated as genotypes of WN02 and NY2001 treated as NY99 (see main text)

* No age given

* No sex given

(Fang and Reisen, 2006)

* An error bar on titer when there appeared to be only one surviving bird

* Range given for titer dose. Used center of range in analysis.

* Death of birds from days 6-7 given as a total. Assumed 1/2 died each day

* No age given

* No sex given

(Grubaugh et al., 2015)

* An error bar on titer when there appeared to be only one surviving bird

* No dates given for host capture (or dates overlooked if given).

* No age given

* No sex given

(Guerrero-Sánchez et al., 2011)

* Overlapping error bars due to a lack of jitter. Measured carefully to connect error to the appropriate means

* Some instances of data description in text not matching appropriately to data depicted in figure. Used data from figure

* No dates given for host capture (or dates overlooked if given).

* Adult birds

* No sex given

(Kilpatrick et al., 2010)

* Hatch-year birds, 3-5 weeks old

* No sex given

(Kilpatrick et al., 2013)

* An error bar on titer when there appeared to be only one surviving bird

* Hatch-year and after-hatch year birds

* No sex given

(Kinney et al., 2006)

* No dates given for host capture (or dates overlooked if given).

* Hatch-year birds

(Kipp et al., 2006)

* No dates given for host capture (or dates overlooked if given)

* No age given

* No sex given

(Komar et al., 2003)

* Some oddities in the calculation of ranges.

* No age given

* Mixture of Males and Females. Sex given for some individual-level data not used in this study (titer in organs)

(Komar et al., 2005)

* No age given

* No sex given

(Langevin et al., 2005)

* No dates given for host capture (or dates overlooked if given).

* No age given

* No sex given

(Langevin et al., 2014)

* An error bar on titer when there appeared to be only one surviving bird

* Overlapping error bars due to a lack of jitter. Measured carefully to connect error to the appropriate means

* After-hatch year birds

* No sex given

(Melian et al., 2014)

* No dates given for host capture (or dates overlooked if given).

* No age given

* No sex given

(Nemeth et al., 2006)

* No dates given for host capture (or dates overlooked if given).

* Range given for titer dose. Used center of range in analysis.

* Most birds needle injected while a single bird was orally injected. Removed orally injected bird because it was at odds with the rest of the experiment.

* Juvenile birds

* No sex given

(Nemeth et al., 2009)

* Error bar on titer when there appeared to be only one surviving bird

* Range given for titer dose. Used center of range in analysis.

* Death of birds from days 5-9 given as a total. Assumed even mortality

* Adult birds

* No sex given

(Nemeth et al., 2011)

* No age given, but at least > 6 months old based on elapsed time between capture and experimentation

* No sex given

(Oesterle et al., 2009)

* Nestlings (8-17 days post-hatch)

* No sex given

(Owen et al., 2006)

* No mention of mortality. Activity levels were listed as not being affected, and given other language assumed no birds died.

* Combined all data from migrant and control birds because of no direct manipulation by the

authors

* Hatching-year birds

* No sex given (Authors include a statement that the species used in this study are monomorphic)

(Owen et al., 2012)

* Adult birds

* 15 females and 20 males

(Reisen and Fang, 2007)

* No age given

* No sex given

(Reisen and Hahn, 2007)

* No dates given for host capture (or dates overlooked if given).

* No age given

* No sex given

(Reisen et al., 2005)

* Death of House Finches in Figure 3B given as a total over the whole study duration. Due to too large of a time window left these data out. For sample size weighting for titer model death assumed to take place in the last 3 days of data, where the lack of data past certain day taken as complete mortality

* Death of some birds from days 4-7 given as a total. Assumed even mortality

* < 0.3 log10 titer units given. Used 0.3

* No dates given for host capture (or dates overlooked if given).

* No age given (Mosquitos were allowed to feed on adult birds in one trial, but it is unclear if the experimental birds were also adults)

* No sex given

(VanDalen et al., 2013)

* Adult birds

* No sex given

(Worwa et al., 2015)

* Hatching-year birds

* No sex given

(Ziegler et al., 2013)

* No dates given for host capture (or dates overlooked if given).

* Adolescent birds (>6 months)

* No sex given

Bird to Mosquito and Mosquito to Bird Transmission

(Anderson et al., 2012)

* Range given for titer dose. Used center of range in analysis.

* Virus retrieved from mosquitos by allowing them to feed on suckling mice

(Bolling et al., 2012)

* control used from control and coinfected

(Ciota et al., 2013)

Ciota, Alexander T, Chin, Pamela A, & Kramer, Laura D. (2013). The effect of hybridization of Culex pipiens complex mosquitoes on transmission of West Nile virus. Parasit Vectors, 6, 305.

* sample size given as 65-75. Used 70

* data from hybrids given. Just used non-hybrids

(Danforth et al., 2015)

* Virus retrieved from mosquitos using capillary tube method (20 min of feeding)

(Dodson et al., 2011)

* Multiple studies averaged

* control used from control and nutritionally deprived

(Dodson et al., 2014)

* control used from control and coinfected

(Dohm et al., 2002)

* Titer converted to transmission probability using the fitted relationship using the data in Moudy et al. 2007

* Reported transmission given as dissemination with the note that at least 90% of mosquitos with disseminated virus are able to transmit (Turell et al. 2000, 2001).

(Ebel et al., 2005)

(Goddard et al., 2002)

(Goenaga et al., 2015)

* Virus retrieved by collecting saliva using capillary tube method

(Hanley et al., 2005)

(Johnson et al., 2003)

* Titer converted to transmission probability using the fitted relationship using the data in Moudy et al. 2007

(Kilpatrick et al., 2008)

* Range given for titer dose. Used center of range in analysis.

* Transmission converted to Transmission | Infection

* Virus retrieved by collecting saliva using capillary tube method

(Moudy et al., 2007)

* Transmission converted to Transmission | Infection

* Data from intrathoracic inoculation of Culex pipiens excluded

* Virus retrieved by collecting saliva using capillary tube method

(Moudy et al., 2009)

* Range given for titer dose. Used center of range in analysis.

* Virus retrieved by collecting saliva using capillary tube method

(Reisen et al., 2005)

* Range given for log10 dose. Used center of range

* Range given for sample size. Used center of range

(Reisen et al., 2006a)

* Range given for titer dose. “Fed on sparrow at peak viremia”. Taken as 6.5 (could be off and also more variable)

* Virus retrieved by collecting saliva using capillary tube method

(Reisen et al., 2006)

(Richards et al., 2007)

(Richards et al., 2014)

(Sardelis and Turell, 2001)

(Sardelis et al., 2001)

* Transmission converted to Transmission | Infection

(Tiawsirisup et al., 2005)

* Transmission converted to Transmission | Infection

(Turell et al., 2000)

(Turell et al., 2001)

(Vanlandingham et al., 2004)

(Vanlandingham et al., 2007)

(Vanlandingham et al., 2008)

(Worwa et al., 2015)

* Transmission converted to Transmission | Infection

JEV

(Gould et al., 1962)

(MACKENZIE-IMPOINVIL et al., 2015)

(Muangman et al., 1972)

(Van Den Hurk et al., 2003)

Case Study data for mosquito to bird ratio, bird community composition, mosquito bite preference

(Hamer et al., 2009)

* Odd confidence intervals given binomial error distribution

(Simpson et al., 2012)

* Some oddities with confidence intervals

(Loss et al., 2009)

(Ruiz et al., 2010)

(Newman et al., 2011)

Seroprevalence Data

Using the search algorithm <West Nile Virus Seroprevalence> in google scholar we located 12 studies within the first 80 hits that presented seroprevalence data for WNV. These studies included:

(Bell et al., 2006)

* North Dakota and Minnesota, 2003-2005

(Bernard et al., 2001)

* New York, 2000

(Beveroth et al., 2006)

* Illinois, 2002-2004

(Chaves et al., 2016)

* Mexico, 2012

(Dusek et al., 2009)

* Many locations along east coast and midwest, 2001-2003

(Komar, 2001)

* New York, 2000

(Komar et al., 2005)

* Louisiana, 2002

(Loss et al., 2009)

* Illinois, 2005-2006

(O'Brien et al., 2010)

* Nebraska, 2008

(Reisen et al., 2004)

* California, 2003

(Reisen et al., 2006b)

* California, 2004

(Ringia et al., 2004)

* Illinois, 2002

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