

In natura follow-up of LPAI infections among wild waterfowl



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In order to study spreading mechanisms of LPAI viruses among wild waterfowl we have (1) run a duck trapping cage, (2) taken swabs, (3) conducted AI viruses detection and isolation by RT PCR & virus isolation.
 Data were collected from 28/08/2007 until 05/04/2008 at Gris Moulin pond, La Hulpe situated 20 km SE of Brussels, Belgium

Ducks trapping



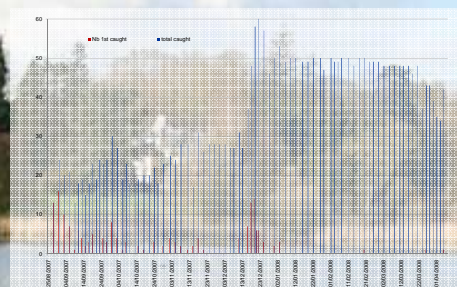
Ducks, attracted by wheat and corn, were caught in a funnel trap (6x3x3m) build above water. Permanent trapping site is essential to accustom ducks on a feeding place.

A grand total of 3261 waterbirds (Cormoran, Great Crested Grebe, Mute Swan, Mallard, Pochard, Tufted Duck, Moorhen, Coot) were handled including 338 different individuals.

Every new bird was banded (Belgian Ringing Scheme), aged, sexed, weighed and wing measured. Cloacal and buccal samples were taken. Every retrapped bird (caught more than one time) was also recorded, weighed and many were sampled.

The present study focuses on Mallard *Anas platyrhynchos* for which 182 (167 new + 15 from previous years) different individuals were caught giving a total of 2941 individuals handled.

The very high retrapping frequency gives a unique possibility for multiple testing of wild migratory birds in their natural environment.



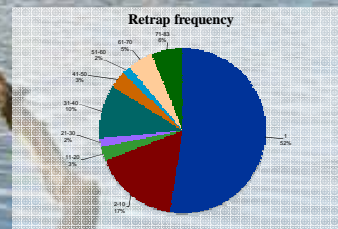
Certified ringers visited the trap every 3 days resulting in a total of 84 visits; the number of new birds during September was indicative of the autumn migration whereas the peak observed in mid-December was consecutive to a cold spell episode.



Distribution of recoveries of Mallards ringed in Belgium (1927-2009) indicates that Belgian born Mallards are sedentary or wintering in Western France. Mallards from Finland, Western Russia and Baltic plain winter in Belgium or migrate trough to south west France and Great Britain.



Mallard was the species most commonly caught; it is also the most abundant anatidae observed in Belgium (breeding-migrating-wintering).



Half of the Mallards were caught only once being most probably migrating birds having just a stop over. But 13% were retrapped more than 50 times and can thus be considered as resident or overwintering birds.

Ad hoc swabbing



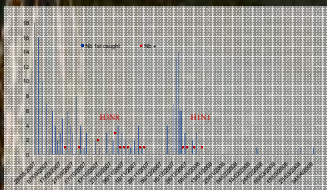
Altogether, 966 swabs were taken from Mallards. Samples were stored in 0,5 ml BHI, kept at 4 c and transferred within 72 h to VAR, the Belgian NRL for virus detection and isolation.

Swabbing strategy was adapted to the epizootic situation: only newcomers in a first phase, then every duck after the first AI positive was detected and later, 10 ducks at random among the flock when the virus as cleared up.

← Taking of a buccal swab on a female Mallard.



AI viruses detection



Phenology for prevalence among Mallards: at the start of the observation period, no infected bird was found among the resident flock; then H3N8 infections were detected during the autumn probably introduced by a new comer. A second introduction of a different subtype (H1N1) was recorded subsequently to the arrival of new Mallards during cold spell mid December.

Sample ID	Date	Subtype	Prevalence
12827/2007	28/08/07	H3N8	0%
12828/2007	29/08/07	H3N8	0%
12829/2007	30/08/07	H3N8	0%
12830/2007	31/08/07	H3N8	0%
12831/2007	01/09/07	H3N8	0%
12832/2007	02/09/07	H3N8	0%
12833/2007	03/09/07	H3N8	0%
12834/2007	04/09/07	H3N8	0%
12835/2007	05/09/07	H3N8	0%
12836/2007	06/09/07	H3N8	0%
12837/2007	07/09/07	H3N8	0%
12838/2007	08/09/07	H3N8	0%
12839/2007	09/09/07	H3N8	0%
12840/2007	10/09/07	H3N8	0%
12841/2007	11/09/07	H3N8	0%
12842/2007	12/09/07	H3N8	0%
12843/2007	13/09/07	H3N8	0%
12844/2007	14/09/07	H3N8	0%
12845/2007	15/09/07	H3N8	0%
12846/2007	16/09/07	H3N8	0%
12847/2007	17/09/07	H3N8	0%
12848/2007	18/09/07	H3N8	0%
12849/2007	19/09/07	H3N8	0%
12850/2007	20/09/07	H3N8	0%
12851/2007	21/09/07	H3N8	0%
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12853/2007	23/09/07	H3N8	0%
12854/2007	24/09/07	H3N8	0%
12855/2007	25/09/07	H3N8	0%
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12857/2007	27/09/07	H3N8	0%
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12859/2007	29/09/07	H3N8	0%
12860/2007	30/09/07	H3N8	0%
12861/2007	01/10/07	H3N8	0%
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12863/2007	03/10/07	H3N8	0%
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12871/2007	11/10/07	H3N8	0%
12872/2007	12/10/07	H3N8	0%
12873/2007	13/10/07	H3N8	0%
12874/2007	14/10/07	H3N8	0%
12875/2007	15/10/07	H3N8	0%
12876/2007	16/10/07	H3N8	0%
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