

Dec. 13, 2012

**5th OIE Regional Expert Group Meeting for Implementation
for the program on Surveillance of Wild and domestic Birds
along Migratory Flyways under the OIE/JTF Project
for strengthening HPAI control in Asia**



北海道大学

AI surveillance in Mongolia: Report from Hokkaido University

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Mongolia





Isolation of avian influenza viruses from fecal samples of migratory waterfowl in Mongolia

Table 4
Isolation of avian influenza viruses from fecal samples of migratory waterfowl in Mongolia.

Sampling date	Name of lakes	Isolated viruses/Total samples	Subtypes of viruses ^a (No. of isolates)
Sep., 2001	Ugii, Doityn tsagaan,	37/725	H1N1 (1), H3N2 (1), H3N6 (3), H3N8 (11), H4N2 (1), H4N6 (12), H5N2 (1), H5N3 (2), H7N1 (1), H10N3 (4)
Sep., 2002	Erkhel, Ugii	109/959	H1N1 (3), H3N3 (2), H3N6 (20), H3N8 (53), H4N6 (12), H4N7 (1), H4N8 (1), H7N1 (1), H7N7 (9), H8N4 (5), H10N7 (1), H12N5 (1)
Sep., 2003	Ugii,	68/750	H1N1 (1), H2N3 (1), H3N6 (6), H3N8 (28), H4N2 (1), H4N6 (25), H9N2 (1), H10N5 (5)
Sep., 2005	Ugii,	32/476	H3N2 (1), H3N6 (2), H3N8 (10), H4N6 (6), H8N4 (1), H10N3 (11), H10N7 (5)
Aug., 2006	Khunt, Ugii, Borgin, Shorvog, Baga Tsaisam, Duut, Ikh Tsaidam, Doityn tsagaan	18/545	H2N2 (1), H3N8 (8), H4N6 (9)
Aug., 2007	Khunt, Ugii, Dunt, Ikh Tsaidam, Doityn tsagaan	20/943	H3N8 (14), H4N3(1), H7N6 (1), H7N7 (4)
Aug., 2008	Khunt, Ugii, Dunt, Ikh Tsaidam, Doityn tsagaan	40/792	H3N6 (3), H3N8 (23), H4N6 (8), H4N8 (3), H7N9 (3)
Aug., 2009	Ugii, Doityn tsagaan, Khunt Doroo, Sharga	9/1021	H1N8 (1), H3N8 (2), H4N6 (3), H8N4 (3)

^a H5 isolates, A/duck/Mongolia/54/2001 (H5N2), A/duck/Mongolia/500/2001 (H5N3), and A/duck/Mongolia/596/2001 (H5N3), were underlined.

Identification of H5N1 HPAI viruses isolated in Mongolia

Table 1
Identification of H5N1 isolates in Mongolia.

Date of isolation	Place	Isolates ^a	Amino acid sequence of HA cleavage site ^b	Intravenous pathogenicity index in chicken	Database accession no.
July, 2005	Khunt Lake, Bulgan	Bhg/Mongolia/1/05 (H5N1)	GERRRKRR/G	2.95	AB239300–AB239302, AB233319, AB239303–AB239306
	Erkhel Lake, Khuvsugul	Ws/Mongolia/3/05 (H5N1)	GERRRKRR/G	2.90	AB239307–AB239309, AB233320, AB239310–AB239313
May, 2006	Khunt Lake, Bulgan	Ws/Mongolia/2/06 (H5N1)	GERRRKRR/G	2.71	AB264769–AB264770, AB263751–AB263753, AB265202–AB265204
May, 2009	Erkhel Lake, Khuvsugul Doityn Tsagaan Lake, Arkhangai	Cg/Mongolia/12/06 (H5N1)	GERRRKRR/G	2.80	AB284321–AB284328
		Ws/Mongolia/2/09 (H5N1)	RERRRKRR/G	ND ^c	AB517665–AB517666
		Ws/Mongolia/6/09 (H5N1)	RERRRKRR/G	2.97	AB520705–AB520712
		Ws/Mongolia/8/09 (H5N1)	RERRRKRR/G	ND	AB517667–AB517668
July, 2009	Doroo Lake, Arkhangai	Bhg/Mongolia/X25/09 (H5N1)	RERRRKRR/G	ND	AB521999, AB522000
		Bhg/Mongolia/X53/09 (H5N1)	RERRRKRR/G	3.00	AB523764–AB523771
		Bhg/Mongolia/X54/09 (H5N1)	RERRRKRR/G	ND	AB523366, AB523367
		Rs/Mongolia/X42/09 (H5N1)	RERRRKRR/G	ND	AB523756–AB523763
		Rs/Mongolia/X63/09 (H5N1)	RERRRKRR/G	ND	AB523368, AB523369
		Cg/Mongolia/X59/09 (H5N1)	RERRRKRR/G	ND	AB522001, AB522002
		Cg/Mongolia/X60/09 (H5N1)	RERRRKRR/G	ND	AB523772–AB523779
		Ws/Mongolia/1/10 (H5N1)	RERRRKRR/G	3.00	AB569345–AB569352
May, 2010	Ganga Lake, Sukhbaatar	Ws/Mongolia/7/10 (H5N1)	RERRRKRR/G	ND	AB569353, AB569354
		Ws/Mongolia/11/10 (H5N1)	RERRRKRR/G	ND	AB569607, AB569608
		Ws/Mongolia/21/10 (H5N1)	RERRRKRR/G	ND	AB569609, AB569610

Isolation of H5N1 HPAI viruses in Mongolia and Russia

**June 2010
Ubsu-Nur**

Gcg/Tyva/22/10 (H5N1)

**May 2010
Ganga Lake**

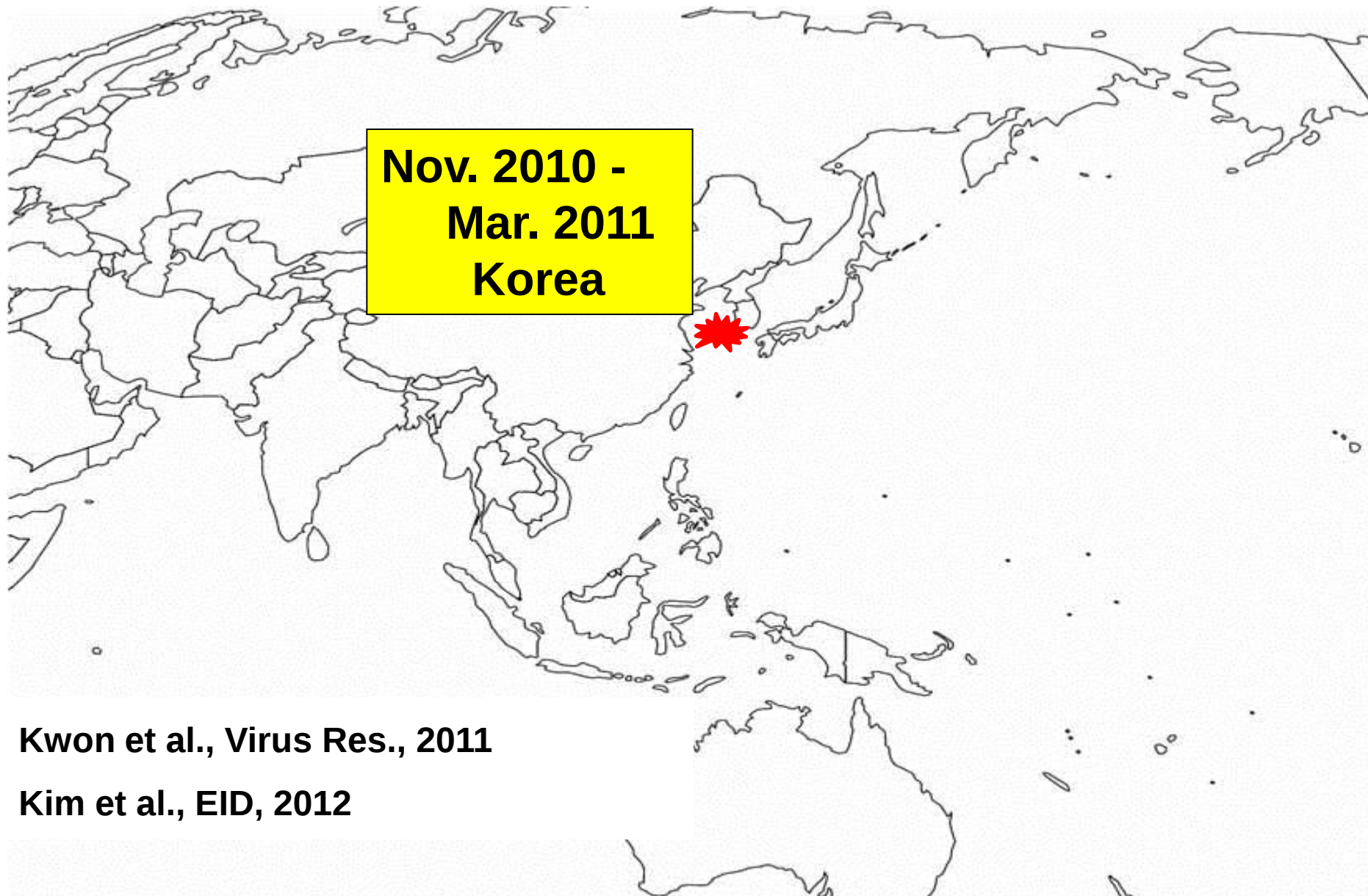


**Ws/Mongolia/1/10 (H5N1)
Ws/Mongolia/7/10 (H5N1)
Ws/Mongolia/11/10 (H5N1)
Ws/Mongolia/21/10 (H5N1)**

Sakoda et al., Virology, 2010

Sharshov et al. submitted

Isolation of H5N1 HPAI viruses in Korea



Kwon et al., Virus Res., 2011

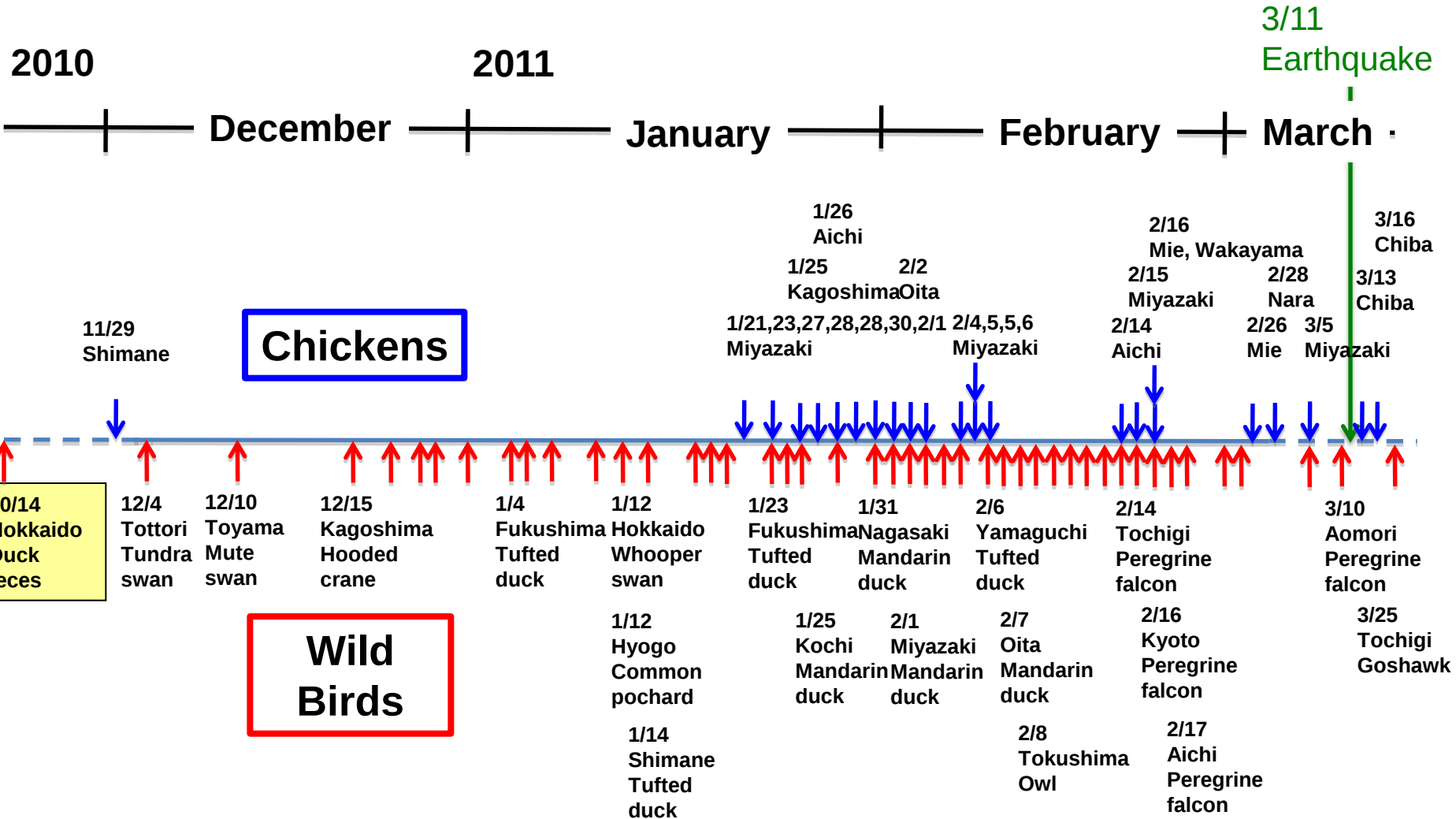
Kim et al., EID, 2012

Isolation of H5N1 HPAI viruses in Japan



Kajihara et al.,
Jpn. J. Vet. Res., 2011

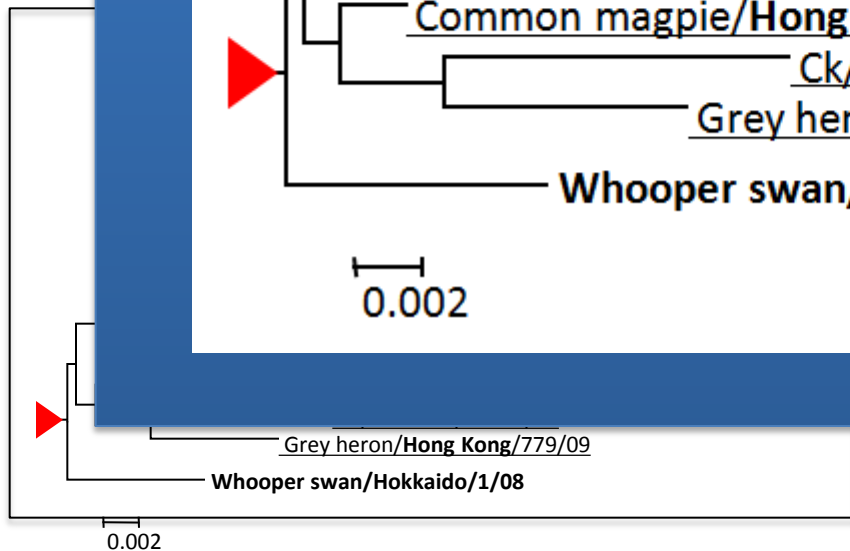
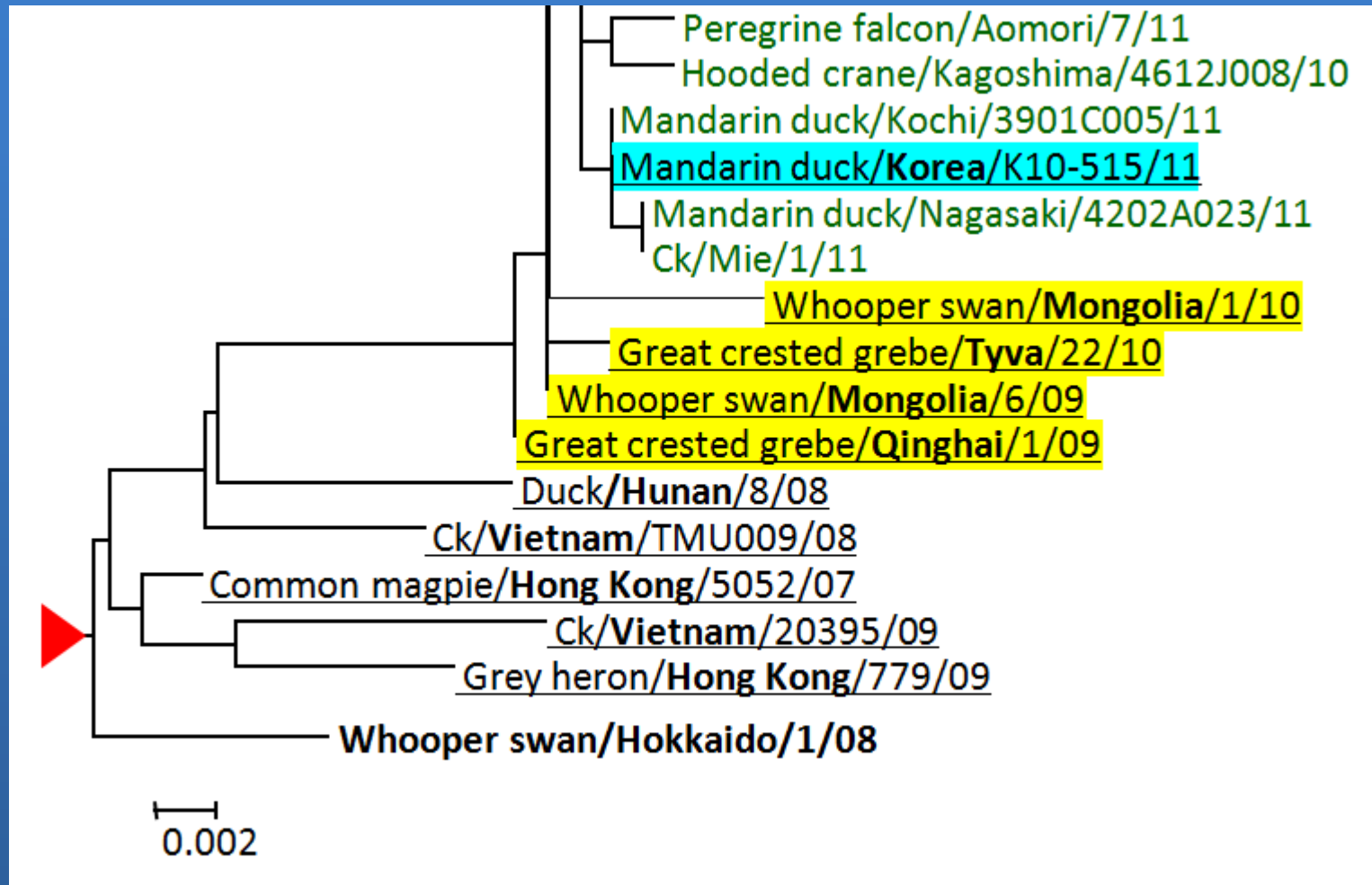
Time line of outbreaks in Japan 2010 - 2011



Phylogenetic trees of H5N1 HPAI viruses in Japan

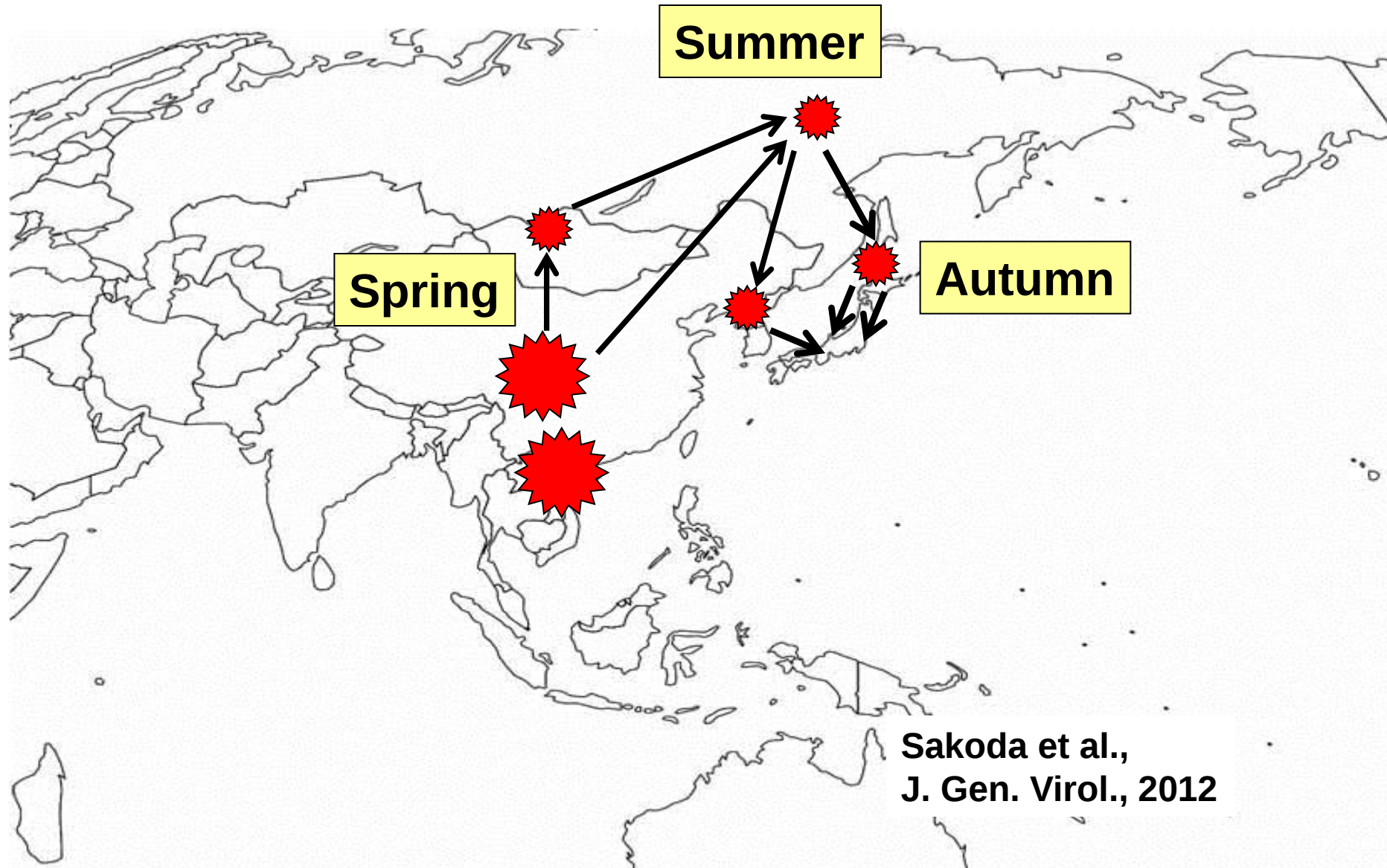
|Pintal/Hokkaido/1/11

H/



Sakoda et al.,
J. Gen. Virol., 2012

Routes of transmission of H5N1 viruses to Japan in 2010-2011 winter season



Sakoda et al.,
J. Gen. Virol., 2012

Global surveillance of avian influenza in 2011

Mongolia (31 isolates /898+3,000+423+3,000)

H3N2 (1) H3N5 (1) H3N6 (1) H3N8 (19)
H4N3 (1) H4N6 (2) H4N8 (1) H5N3 (2)
H8N4 (2) H10N7 (1)

Hokkaido (26 isolates/164+294+133)

H1N1 (1) H2N3 (1) H3N2 (1)
H3N8 (1) H4N6 (4) **H5N1 (16)**
H7N7 (2)

Vietnam (87 isolates/543+600+600)

H3N6 (1) H3N8 (8) H4N2 (1)
H4N6 (4) **H5N1 (17)** H6N2 (46)
H6N6 (3) H6N9 (2) H11N5 (3)
H11N9 (2)

Number of sample : 9,655
Influenza A virus positive : 144

Global surveillance of avian influenza in 2012

Russia (12 isolates /1594+300+?)

H3N8 (2) H4N6 (7)

Mongolia (17 isolates /838+1,000+)

H2N9 (1) H3N6 (1) H3N8 (10)
H4N6 (2) H4N8 (1) H7N7 (1)
H8N4 (1)

Hokkaido (9 isolates/30+15)

H3N8(1) H6N1(6) H6(1)
H12N1(1)

Vietnam (71 isolates/706+600+601)

H3N2 (11) H3N6 (9) H4N6 (5)
H5N1 (14) H6N2 (1) H6N6 (6)
H7N1 (2) H9N2 (17) H10N7(3)
H11N3(2) H11N9(1)

Number of sample : 3,790
Influenza A virus positive : 88

As of Nov. 7, 2012

Avian influenza viruses isolated in Mongolia under the OIE/JTF Project

August, 2011 (East area)

A/mallard duck/Mongolia/OIE-7799/2011 (H3N2)

A/ruddy shelduck/Mongolia/OIE-7457/2011 (H3N5)

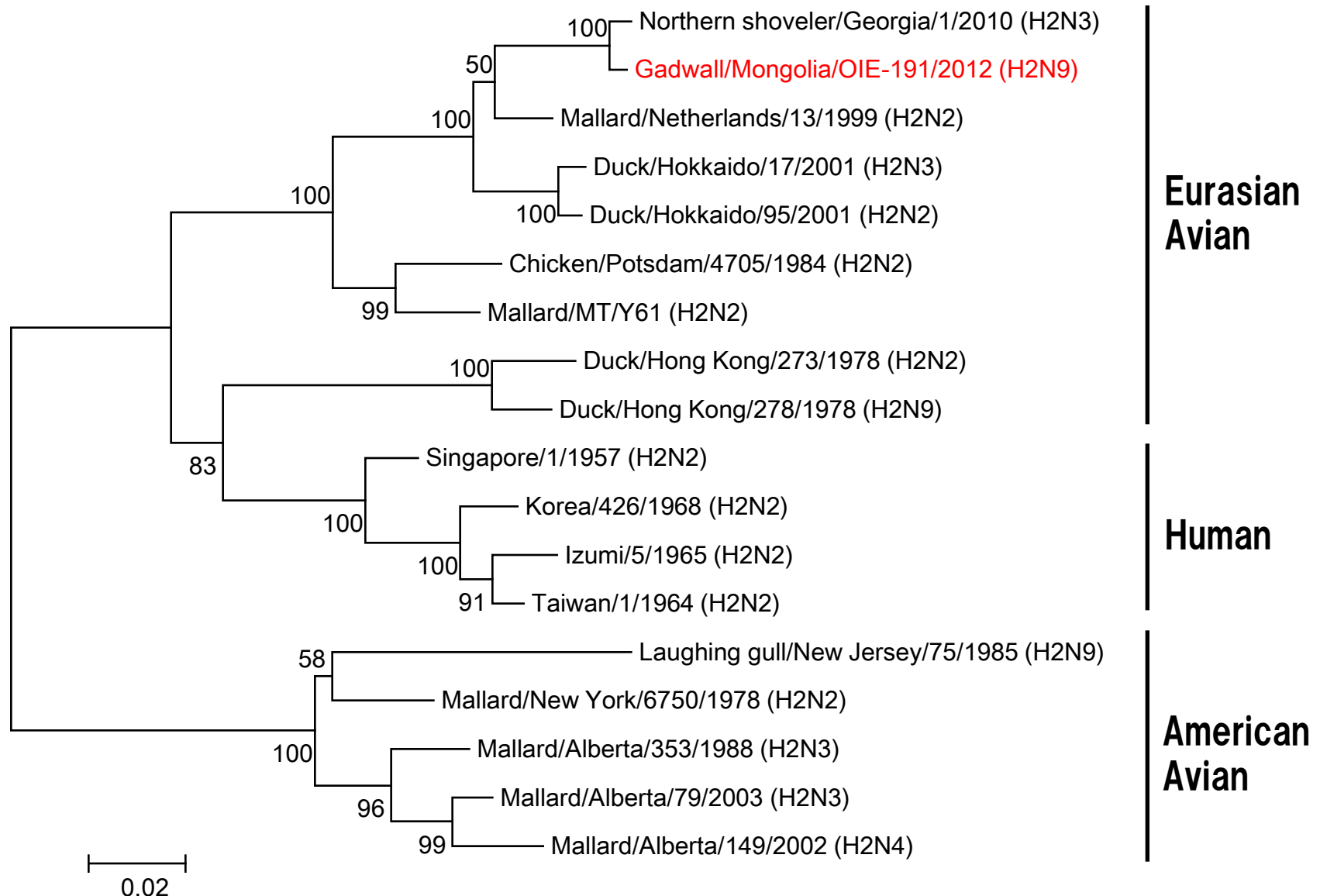
A/ruddy shelduck/Mongolia/OIE-7438/2011 (H4N6)

May, 2012 (Central area)

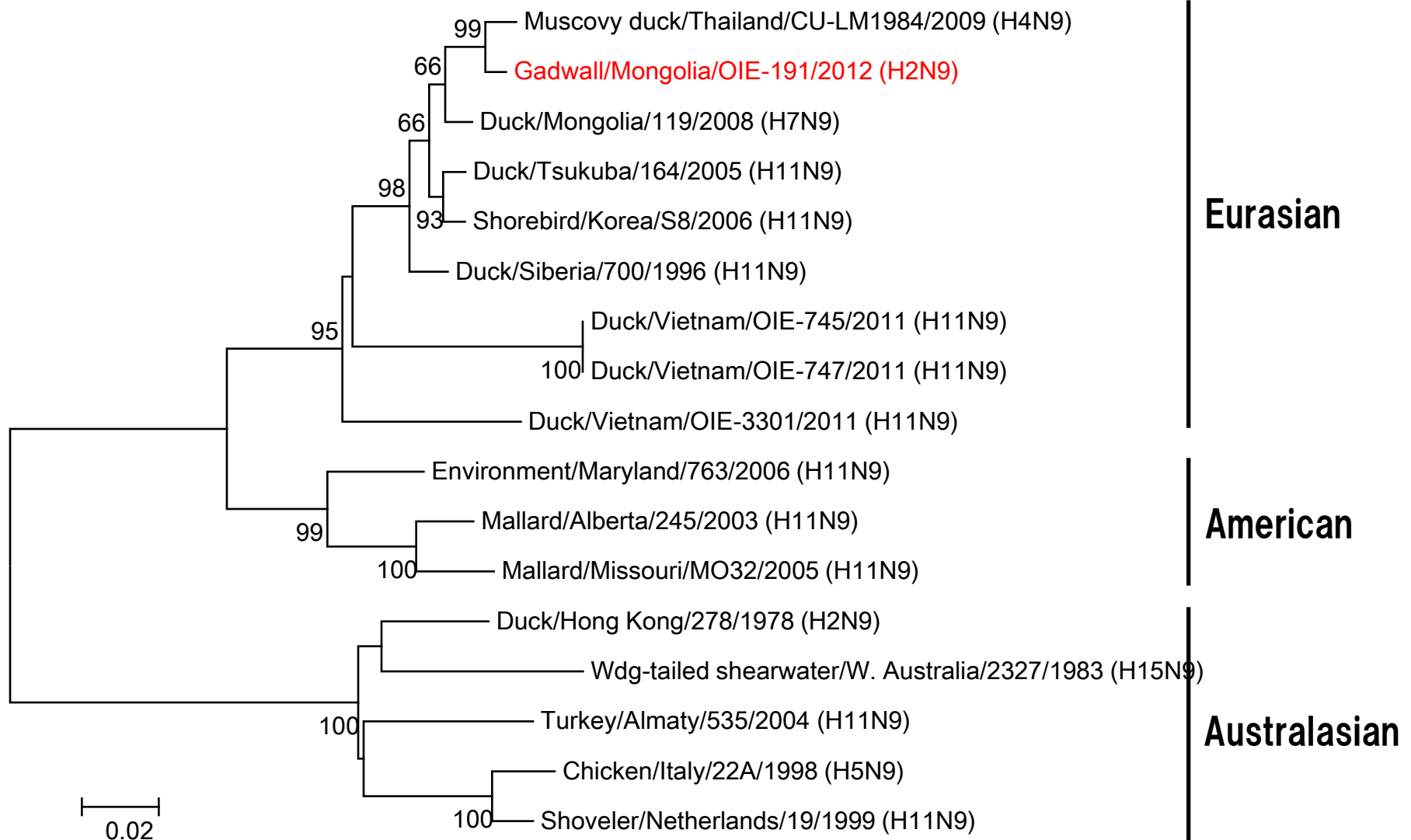
A/gadwall/Mongolia/OIE-191/2012 (H2N9)

A/gadwall/Mongolia/OIE-192/2012 (H3N8)

Phylogenetic tree of the HA genes of H2 influenza viruses



Phylogenetic tree of the NA genes of N9 influenza viruses



Summary

1. H5N1 HPAIV was reintroduced by migratory water birds in May 2010 in Mongolia.
2. Intensive surveillance is continued and no HPAI virus was isolated in 2011 and 2012.
3. Further collaboration is necessary for the control of avian and equine influenza and other important diseases.

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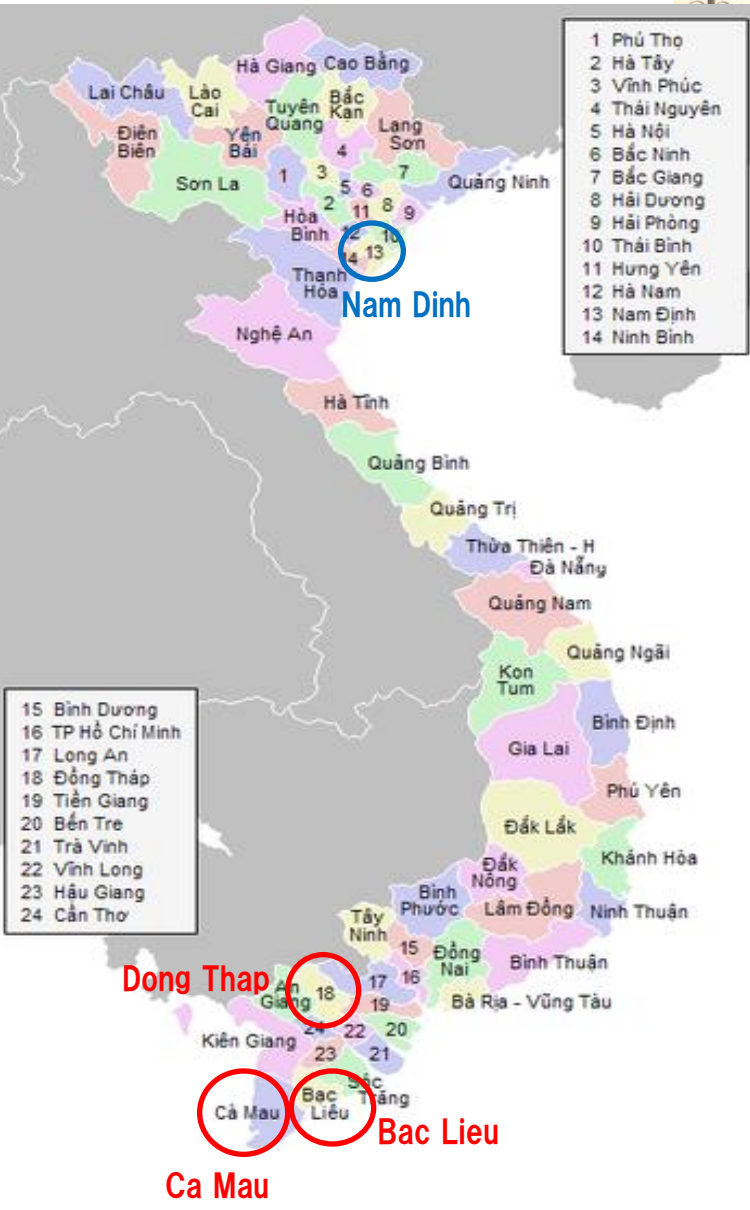
北海道大学

AI surveillance in Vietnam and Laos: Report from Hokkaido University

Yoshihiro Sakoda, DVM, PhD

**OIE Reference Laboratory for HPAI and LPAI
Graduate School of Veterinary Medicine
Hokkaido University, Sapporo, Japan**

Characterization of AI viruses isolated from domestic birds in Vietnam



Screening test and virus isolation

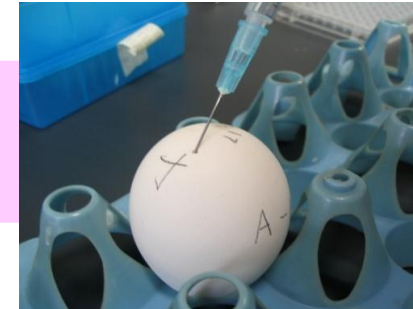
Sampling



1-2hr

Positive sample

Egg inoculation



2 days

Reverse transcription loop-mediated isothermal amplification (RT-LAMP)



Yoshida et al.,
J. Vet. Med. Sci., 2011

<http://loopamp.eiken.co.jp/>

AI viruses isolated from domestic poultry in Vietnam

Year	Month	Region	Place	Subtype of isolates (number of isolates)		
2009	April	Bac Lieu	Farm	H4N6 (7)	H9N2 (18)	
			LBM	H3N2 (1)	H3N8 (1)	H9N2 (7)
				H11N3 (3)	H11N9 (1)	
			Slaughterhouse	H9N2 (1)		
2010	March	Bac Lieu	LBM	H9N6 (1)		
2010	October	Bac Lieu	LBM	H6N2 (24)	H6N6 (1)	
2011	February	Ca Mau	LBM	H5N1 (1)	H6N2 (7)	H11N5 (3)
				H11N9 (2)		
2011	September	Nam Dinh	LBM	H3N8 (1)	H4N2 (1)	H5N1 (1)
				H6N6 (3)		
2011	October	Ca Mau	LBM	H3N6 (1)	H3N8 (7)	H4N6 (4)
				H5N1 (15)	H6N2 (39)	H6N9 (2)
2012	February	Dong Thap	Farm	H7N1 (1)	H9N2 (1)	H10N7 (3)
			LBM	H4N6 (1)	H5N1 (4)	H6N2 (1)
				H7N1 (1)	H9N2 (12)	H11N3 (2)
2012	April	Nam Dinh	Farm	H3N2 (4)	H3N6 (3)	H4N6 (4)
				H6N6 (1)	H11N9 (1)	
			LBM	H3N2 (7)	H3N6 (6)	H5N1 (10)
				H6N6 (5)	H9N2 (4)	
2012	August	Nam Dinh	LBM	H3N8 (7)	H5N1 (14)	H5N2 (1)
				H9N2 (5)	H9N8 (1)	
2012	October	Dong Thap	Farm	H3N8 (2)	H11N9 (3)	
			LBM	H3N8 (1)	H4N6 (1)	H5N1 (2)
				H6N2 (4)	H11N6 (1)	

AI viruses isolated from domestic poultry in Vietnam

Year	Month	Region	Place	Subtype of isolates (number of isolates)		
2009	April	Bac Lieu	Farm	H4N6 (7)	H9N2 (18)	
			LBM	H3N2 (1)	H3N8 (1)	H9N2 (7)
				H11N3 (3)	H11N9 (1)	
			Slaughterhouse	H9N2 (1)		
2010	March	Bac Lieu	LBM	H9N6 (1)		
2010	October	Bac Lieu	LBM	H6N2 (24)	H6N6 (1)	
2011	February	Ca Mau	LBM	H5N1 (1) H11N9 (2)	H6N2 (7)	H11N5 (3)
2011	September	Nam Dinh	LBM	H3N8 (1) H6N6 (3)	H4N2 (1)	H5N1 (1)
2011	October	Ca Mau	LBM	H3N6 (1) H5N1 (15)	H3N8 (7) H6N2 (39)	H4N6 (4) H6N9 (2)
2012	February	Dong Thap	Farm	H7N1 (1)	H9N2 (1)	H10N7 (3)
			LBM	H4N6 (1) H7N1 (1)	H5N1 (4) H9N2 (12)	H6N2 (1) H11N3 (2)
2012	April	Nam Dinh	Farm	H3N2 (4) H6N6 (1)	H3N6 (3) H11N9 (1)	H4N6 (4)
			LBM	H3N2 (7) H6N6 (5)	H3N6 (6) H9N2 (4)	H5N1 (10)
2012	August	Nam Dinh	LBM	H3N8 (7) H9N2 (5)	H5N1 (14) H9N8 (1)	H5N2 (1)
2012	October	Dong Thap	Farm	H3N8 (2)	H11N9 (3)	
			LBM	H3N8 (1) H6N2 (4)	H4N6 (1) H11N6 (1)	H5N1 (2)

HA cleavage site of H5N1 isolates

Isolates in North Vietnam

R E R R R K R / G L F

Isolates in South Vietnam

E E R R K K R / G L F

E G R R K K R / G L F

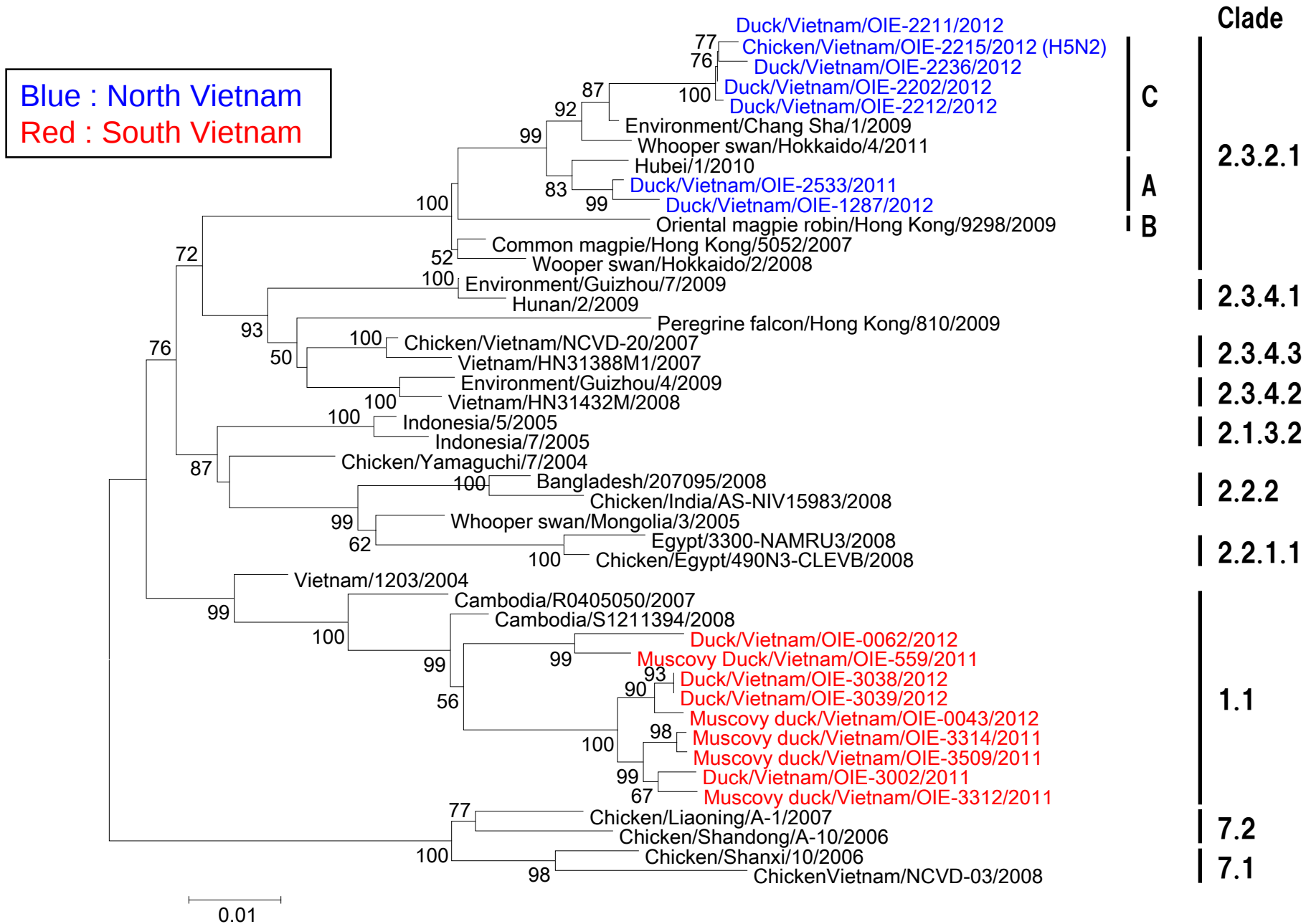


Highly pathogenic avian influenza virus-like motif

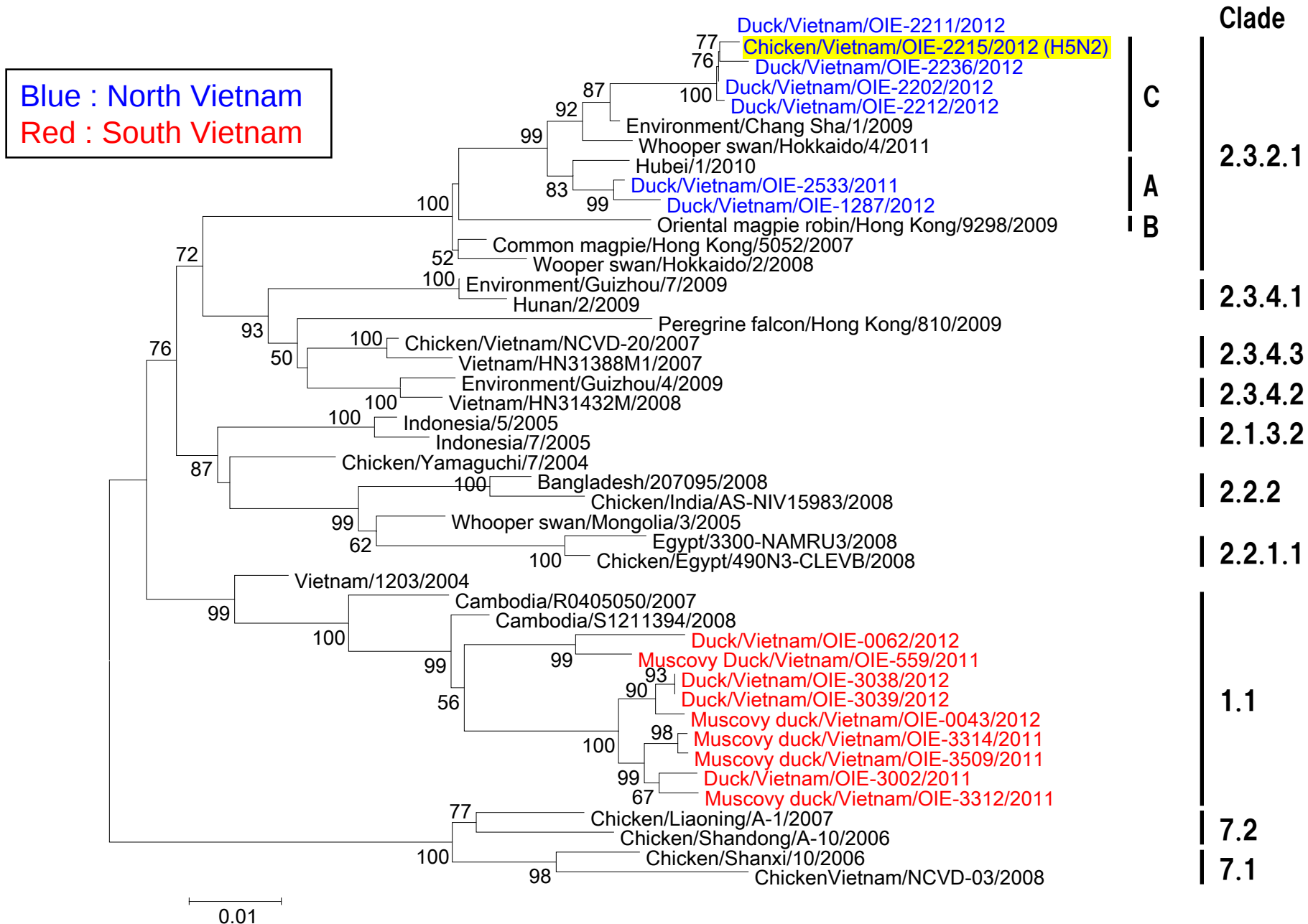
Pathogenicity of H5 viruses in chickens

	Strain	Intravenous pathogenicity Index (IVPI)
North	Dk/VN/OIE-2533/2011 (H5N1)	2.95
	Dk/VN/OIE-2202/2012 (H5N1)	3.00
	Ck/VN/OIE-2215/2012 (<u>H5N2</u>)	3.00
South	MDk/VN/OIE-3314/2011 (H5N1)	3.00
	MDk/VN/OIE-3509/2011 (H5N1)	3.00
	MDk/VN/OIE-0043/2012 (H5N1)	3.00
	Dk/VN/OIE-1287/2012 (H5N1)	2.98

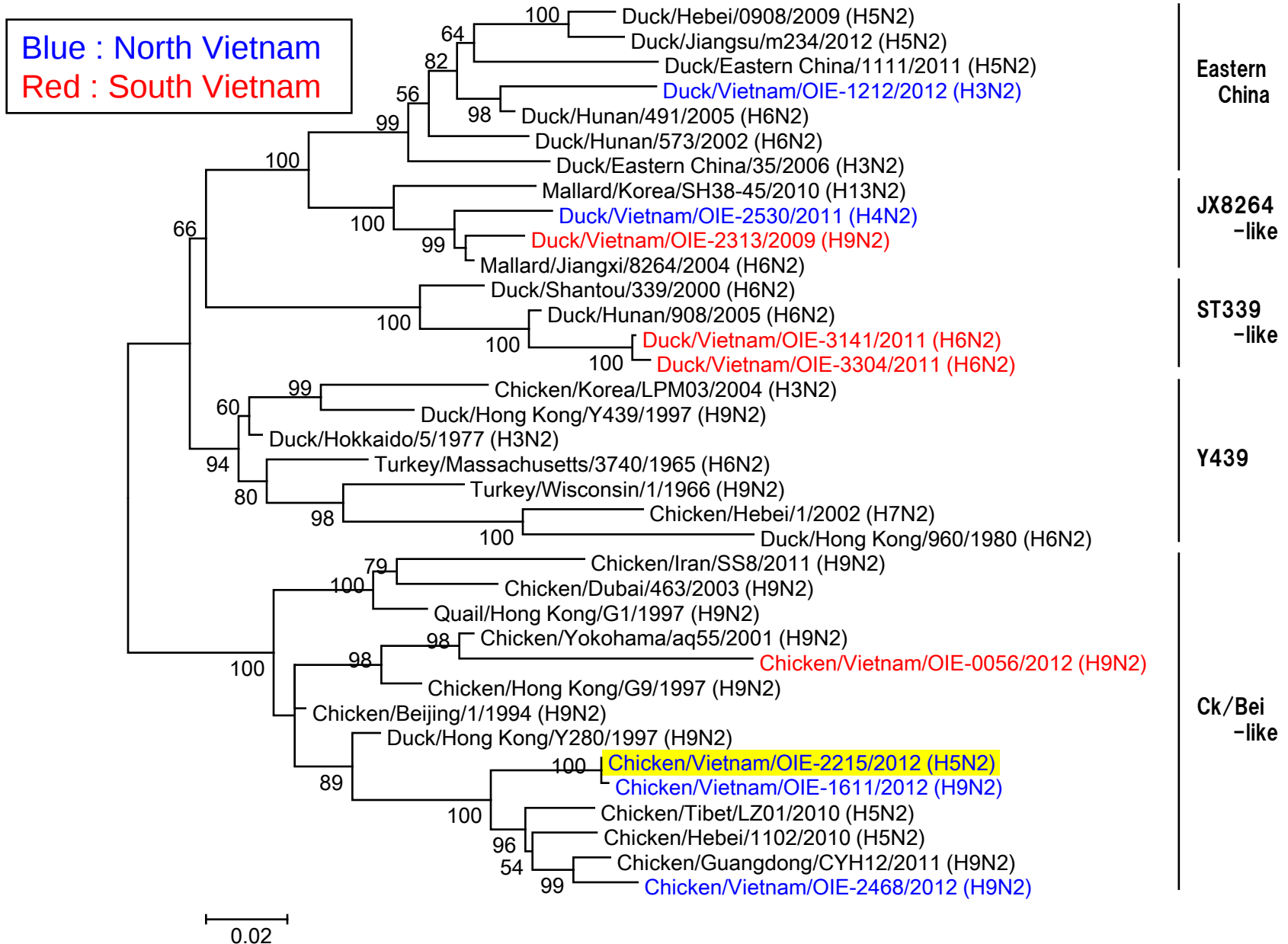
Phylogenetic tree of the HA genes of H5 influenza viruses



Phylogenetic tree of the HA genes of H5 influenza viruses



Phylogenetic tree of the NA genes of N2 influenza viruses



BLAST search of each gene segment of A/chicken/Vietnam/OIE-2215/2012 (H5N2)

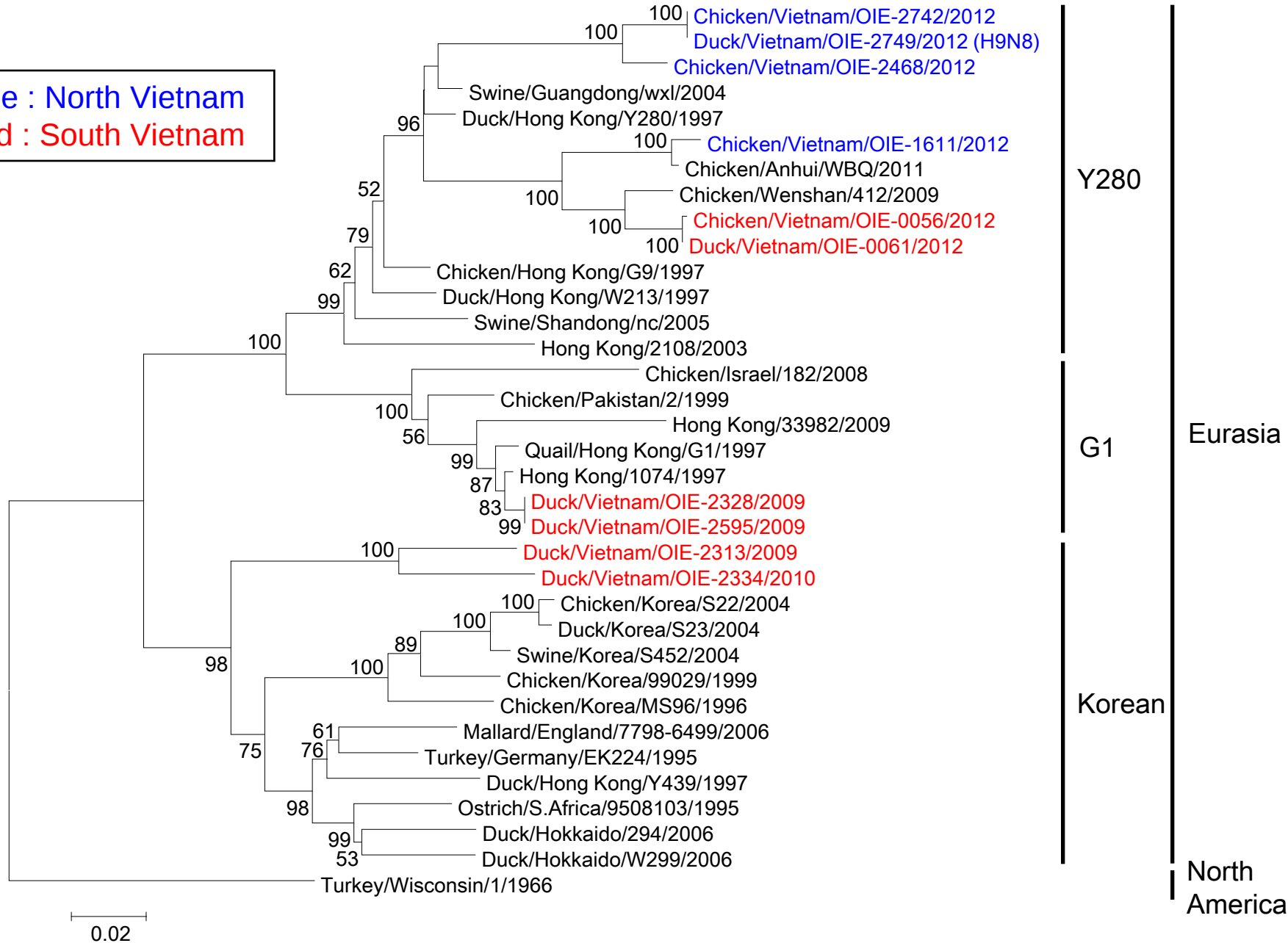
Gene segment	Region	Name of strain with highest homology	Homology (%)	Accession No.
PB2	1547-2295	A/chicken/Vietnam/OIE-1611/2012 (H9N2)	100	AB766236
PB1	1241-2285	A/chicken/Vietnam/OIE-1611/2012 (H9N2)	95.9	AB766237
PA	1118-2191	A/duck/Vietnam/OIE-2202/2012 (H5N1)	100	AB766238
HA	Full genome	A/duck/Vietnam/OIE-2202/2012 (H5N1)	99.9	AB766239
NP	712-1491	A/duck/Vietnam/OIE-2202/2012 (H5N1)	99.9	AB766240
NA	173-1368	A/chicken/Vietnam/OIE-1611/2012 (H9N2)	99.8	AB766241
M	34-982	A/duck/Vietnam/OIE-2202/2012 (H5N1)	100	AB766242
NS	1-747	A/chicken/Vietnam/OIE-2468/2012 (H9N2)	98.9	AB766243

AI viruses isolated from domestic poultry in Vietnam

Year	Month	Region	Place	Subtype of isolates (number of isolates)		
2009	April	Bac Lieu	Farm	H4N6 (7)	H9N2 (18)	
			LBM	H3N2 (1)	H3N8 (1)	H9N2 (7)
				H11N3 (3)	H11N9 (1)	
			Slaughterhouse	H9N2 (1)		
2010	March	Bac Lieu	LBM	H9N6 (1)		
2010	October	Bac Lieu	LBM	H6N2 (24)	H6N6 (1)	
2011	February	Ca Mau	LBM	H5N1 (1)	H6N2 (7)	H11N5 (3)
				H11N9 (2)		
2011	September	Nam Dinh	LBM	H3N8 (1)	H4N2 (1)	H5N1 (1)
				H6N6 (3)		
2011	October	Ca Mau	LBM	H3N6 (1)	H3N8 (7)	H4N6 (4)
				H5N1 (15)	H6N2 (39)	H6N9 (2)
2012	February	Dong Thap	Farm	H7N1 (1)	H9N2 (1)	H10N7 (3)
			LBM	H4N6 (1)	H5N1 (4)	H6N2 (1)
				H7N1 (1)	H9N2 (12)	H11N3 (2)
2012	April	Nam Dinh	Farm	H3N2 (4)	H3N6 (3)	H4N6 (4)
				H6N6 (1)	H11N9 (1)	
			LBM	H3N2 (7)	H3N6 (6)	H5N1 (10)
				H6N6 (5)	H9N2 (4)	
2012	August	Nam Dinh	LBM	H3N8 (7)	H5N1 (14)	H5N2 (1)
				H9N2 (5)	H9N8 (1)	
2012	October	Dong Thap	Farm	H3N8 (2)	H11N9 (3)	
			LBM	H3N8 (1)	H4N6 (1)	H5N1 (2)
				H6N2 (4)	H11N6 (1)	

Phylogenetic tree of the HA genes of H9 influenza viruses

Blue : North Vietnam
Red : South Vietnam

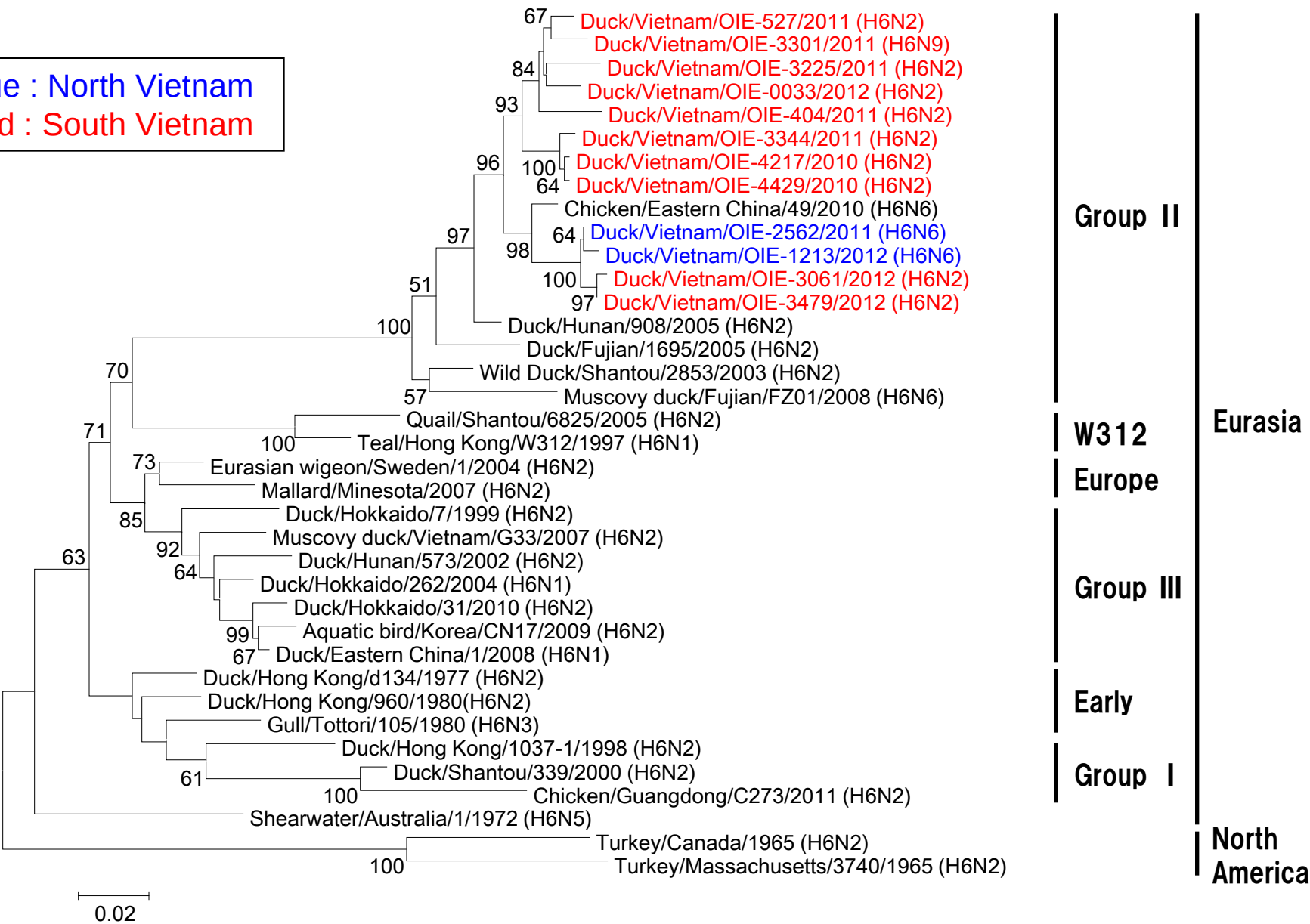


AI viruses isolated from domestic poultry in Vietnam

年月	地域	場所	分離されたウイルスの亜型 (数)		
2009 April	Bac Lieu	Farm	H4N6 (7)	H9N2 (18)	
		LBM	H3N2 (1)	H3N8 (1)	H9N2 (7)
			H11N3 (3)	H11N9 (1)	
		Slaughterhouse	H9N2 (1)		
2010 March	Bac Lieu	LBM	H9N6 (1)		
2010 October	Bac Lieu	LBM	H6N2 (24)	H6N6 (1)	
2011 February	Ca Mau	LBM	H5N1 (1)	H6N2 (7)	H11N5 (3)
			H11N9 (2)		
2011 September	Nam Dinh	LBM	H3N8 (1)	H4N2 (1)	H5N1 (1)
			H6N6 (3)		
2011 October	Ca Mau	LBM	H3N6 (1)	H3N8 (7)	H4N6 (4)
			H5N1 (15)	H6N2 (39)	H6N9 (2)
2012 February	Dong Thap	Farm	H7N1 (1)	H9N2 (1)	H10N7 (3)
		LBM	H4N6 (1)	H5N1 (4)	H6N2 (1)
			H7N1 (1)	H9N2 (12)	H11N3 (2)
2012 April	Nam Dinh	Farm	H3N2 (4)	H3N6 (3)	H4N6 (4)
			H6N6 (1)	H11N9 (1)	
		LBM	H3N2 (7)	H3N6 (6)	H5N1 (10)
			H6N6 (5)	H9N2 (4)	
2012 August	Nam Dinh	LBM	H3N8 (7)	H5N1 (14)	H5N2 (1)
			H9N2 (5)	H9N8 (1)	
2012 October	Dong Thap	Farm	H3N8 (2)	H11N9 (3)	
		LBM	H3N8 (1)	H4N6 (1)	H5N1 (2)
			H6N2 (4)	H11N6 (1)	

Phylogenetic tree of the HA genes of H6 influenza viruses

Blue : North Vietnam
Red : South Vietnam



Summary

1. H5N1 and H5N2 HPAI viruses were isolated from apparently healthy ducks and chickens in south and north Vietnam.
2. LPAI viruses (H3, H4, H6, H7, H9, and H11 subtypes) were also isolated.
3. Genetic reassortment frequently occurred between HPAI and LPAI viruses.
4. Based on the results of this surveillance study, novel action plan should be drawn up for the control of avian influenza.

The AI Surveillance of Wild Birds in Viet Nam and Laos from 2009 to 2012

OIE / Japan Trust Fund Project for
Strengthening HPAI Control in Asia

Yamashina Institute for Ornithology

13th December 2012

Yoshimitsu Shigeta

Wild bird surveyed areas in Viet Nam



- North: 2 times

- March 2009-----Nam Dinh
- January 2010-----Nam Dinh

- South: 4 times

- April 2009-----Bac Lieu
- March 2010-----Bac Lieu
- February 2011----Ca Mau
- February 2012-----Dong Thap

Methodology : Sample collection

	Wild bird
Sample scale	100 birds
Sample category	2 swabs (Cloacal & tracheal)
Target species	Anseriformes (e.g. Mallard, Whooper Swan) and other species of water bird
Target place	National park
Others	Environmental samples (lake water, dropping, etc.)



Xuan Thuy Nature Reserve, Nam Din Province,
Viet Nam



Giao Hương

Ngô Đồng

Giao Thanh

NR HQ

Giao Xuan







Garganey (*Anas querquedula*)
Xuan Thuy, Vietnam / 6th March, 2009



Redshank (*Tringa totanus*) Adult Sex Unknown



Curlew Sandpiper (*Calidris ferruginea*)

Adult Male in winter plumage

8th March 2009 / Xuan Thuy, Vietnam



Kentish Plover (*Charadrius alexandrinus dealbatus*) or
White-faced Plover Male in first summer / 10th March 2009



A Male 1st winter of Long-tailed Shrike in Bow-net

Xuan Thuy, Viet Nam, 4 - 10 March 2009 :
Captured Birds

	English Name	Scientific Name	和名	Number	M / R *
1	Garganey	<i>Anas querquedula</i>	シマアジ	1	M
2	Slaty-breasted Rail	<i>Gallirallus striatus</i>	ミナミクイナ	1	R
3	Kentish Plover	<i>Charadrius alexandrinus</i>	シロチドリ	1	M
4	Malaysian Plover	<i>Charadrius peronii</i>	クロエリシロチドリ	1	R
5	Greater Sand-Plover	<i>Charadrius leschenaultii</i>	オオメダイチドリ	1	M
6	Curlew sandpiper	<i>Calidris ferruginea</i>	サルハマシギ	1	M
7	Common Redshank	<i>Tringa totanus</i>	アカアシシギ	39	M
8	Marsh Sandpiper	<i>Tringa stagnatilis</i>	コアオアシシギ	3	M
9	Common Greenshank	<i>Tringa nebularia</i>	アオアシシギ	7	M
10	Common Sandpiper	<i>Actitis hypoleucos</i>	イソシギ	1	M
11	Spotted Dove	<i>Streptopelia chinensis</i>	カノコバト	1	R
12	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	アオショウビン	1	R
13	White Wagtail	<i>Motacilla alba</i>	ハクセキレイ	1	M
14	Light-vented Bulbul	<i>Pycnonotus sinensis</i>	シロガシラ	1	R
15	Long-tailed Shrike	<i>Lanius schach</i>	タカサゴモズ	1	R
16	Siberian Stonechat	<i>Saxicola maurus</i>	ノビタキ	1	M
17	Dusky Warbler	<i>Phylloscopus fuscatus</i>	ムジセツカ	2	M
18	Plain Prinia	<i>Prinia inornata</i>	マミハウチワドリ	5	R
19	Common Tailorbird	<i>Orthotomus sutorius</i>	オナガサイホウチョウ	2	R
20	Japanese White-eye	<i>Zosterops japonicus</i>	メジロ	2	M
21	Eurasian Tree Sparrow	<i>Passer montanus</i>	スズメ	4	R
Total	21 species			77	

* : M = migratory R = resident

Total : M = 60 individuals / 12 species R : 17 individuals / 9 species

Xuan Thuy, Viet Nam, 16 - 22 January 2010 : Captured Birds

	English Name	Scientific Name	Japanese Name	Numbers	M / R *
1	Striated Heron	<i>Butorides striatus</i>	ササゴイ	1	M
2	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	シロハラクイナ	2	M / R
3	Grey Plover	<i>Pluvialis squatarola</i>	ダイゼン	2	M
4	Kentish Plover	<i>Charadrius alexandrinus</i>	シロチドリ	5	M
5	Malaysian Plover	<i>Charadrius peronii</i>	クロエリシロチドリ	4	R
6	Lesser Sand Plover	<i>Charadrius mongolus</i>	メダイチドリ	1	M
7	Spotted Redshank	<i>Tringa erythropus</i>	ツルシギ	1	M
8	Common Greenshank	<i>Tringa nebularia</i>	アオアシシギ	3	M
9	Marsh Sandpiper	<i>Tringa stagnatilis</i>	コアオアシシギ	6	M
10	Common Redshank	<i>Tringa totanus</i>	アカアシシギ	22 **	M
11	Sanderling	<i>Calidris alba</i>	ミユビシギ	1	M
12	Dunlin	<i>Calidris alpina</i>	ハマシギ	4	M
13	Greater Coucal	<i>Centropus sinensis</i>	オオバンケン	1	R
14	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	アオショウビン	1	R
15	Common kingfisher	<i>Alcedo atthis</i>	カワセミ	1	M / R
16	Long-tailed Shrike	<i>Lanius schach</i>	タカサゴモズ	6	R
17	Richard's Pipit	<i>Anthus richardi</i>	マミジロタヒバリ	5	M
18	Paddyfield Pipit	<i>Anthus rufulus</i>	ヒメマミジロタヒバリ	2	R
19	White Wagtail	<i>Motacilla alba</i>	ハクセキレイ	1	M
20	Grey-backed Thrush	<i>Turdus hortulorum</i>	カラアカハラ	1	M
21	Siberian Stonechat	<i>Saxicola maurus</i>	ノビタキ	3	M
22	Dusky Warbler	<i>Phylloscopus fuscatus</i>	ムジセッカ	3	M
23	Zitting Cisticola	<i>Cisticola juncidis</i>	セッカ	10	R
24	Common Tailorbird	<i>Orthotomus sutorius</i>	オナガサイホウチョウ	3 ***	R
25	Plain Prinia	<i>Prinia inornata</i>	マミハウチワドリ	22	R
Total		25 species		111	

*: M = migratory R = resident

Total : M = 59 individuals / 15 species R : 49 individuals / 8 species M or R : 3 individuals / 2 species

** : including 1 bird captured in March 2009

*** : including 2 birds captured in March 2009



Ca Mau, Ca Mau Province, Viet Nam







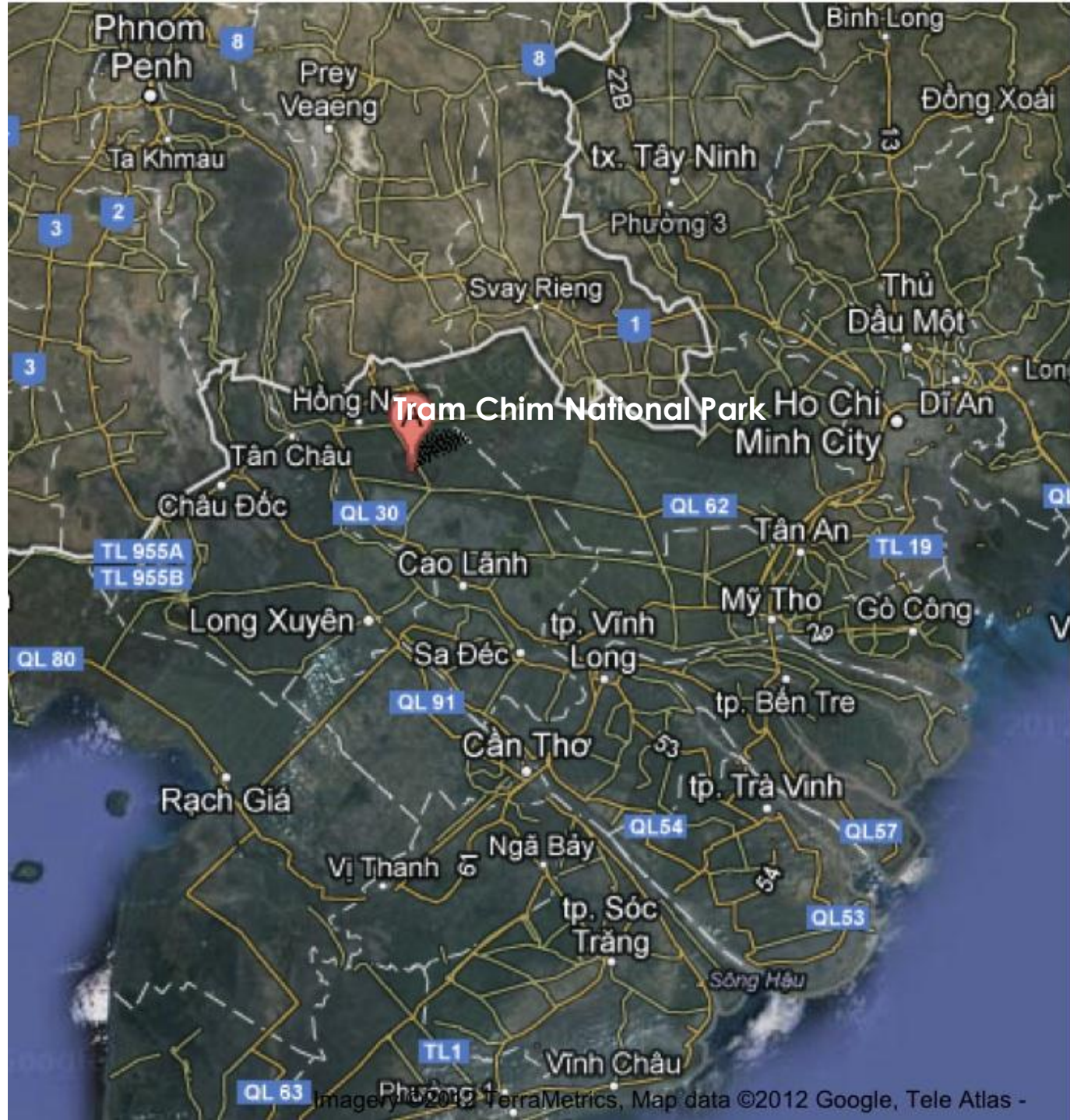


Ca Mau Culture Park, Ca Mau Vietnam: Captured Birds (17 - 23 February 2011)

	English Name	Japanese Name	Scientific Name	Number of Capture	R or M*
1	Blue-eared Kingfisher	ルリカワセミ	<i>Alcedo meninting</i>	9	R
2	White-throated Kingfisher	アオショウビン	<i>Halcyon smyrnensis</i>	1	R
3	Black-capped Kingfisher	ヤマショウビン	<i>Halcyon pileata</i>	3	R
4	Asian Koel	オニカクコウ	<i>Eudynamys scolopacea</i>	4	R
5	Collared Scope Owl	インドオオコノハズク	<i>Otus bakkamoena</i>	1	R
6	Grey Nightjar	ヨタカ	<i>Caprimulgus indicus</i>	1	R
7	Little Cormorant	アジアコビトウ	<i>Phalacrocorax niger</i>	1	R
8	Little Egret	コサギ	<i>Egretta gazetta</i>	46	R
9	Chinese Pond Heron	アカガシラサギ	<i>Ardeola bacchus</i>	4	R
10	Black-crowned Night Heron	ゴイサギ	<i>Nycticorax nycticorax</i>	20	R
11	Common Iora	ヒメコノハドリ	<i>Aegithina tiphia</i>	1	R
12	Brown Shrike	アカモズ	<i>Lanius cristatus</i>	1	M
13	Ashy Drongo	ハイイロオウチュウ	<i>Dicrurus leucophaeus</i>	1	R
14	White-throat Fantail	ノジロオウギビタキ	<i>Rhipidura albicollis</i>	2	R
15	Asian Brown Flycatcher	コサメビタキ	<i>Muscicapa dauurica</i>	2	M
16	Taiga Flycatcher	オジロビタキ	<i>Ficedula albicilla</i>	3	M
17	Streak-eared Bulbul	ミミジロヒヨドリ	<i>Pycnonotus blanfordi</i>	7	R
18	Common Tailorbird	サイハウチョウ	<i>Orthotomus sutorius</i>	2	R
19	Ashy Tailorbird	アカガオサイハウチョウ	<i>Orthotomus ruficeps</i>	1	R
20	Arctic Warbler	メボソムシクイ	<i>Phylloscopus borealis</i>	1	M
Total	20 species			111	

* R = resident M = migratory

Total 20 species (R = 16 M = 4)





Pheasant-tailed Jacana

Tram Chim National Park, Viet Nam, 18- 21 February 2012: Captured Birds

	English Name	Scientific Name	Japanese Name	Number of Capture	R or M*
1	Yellow Bittern	<i>Ixobrychus sinensis</i>	ヨシゴイ	1	R / M
2	Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	リュウキュウヨシゴイ	4	R / M
3	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	ゴイサギ	3	R / M
4	Little Heron	<i>Butorides striata</i>	ササゴイ	1	R / M
5	Indian Cormorant	<i>Phalacrocorax fuscicollis</i>	インドヒメウ	1	R
6	Besra	<i>Accipiter virgatus</i>	ミナミツミ	1	R / M
7	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	レンカク	1	R / M
8	Bronze-winged Jacana	<i>Metopidius indicus</i>	アジアレナカク	1	R
9	Oriental Cuckoo	<i>Cuculus saturatus</i>	ツツドリ	1	M
10	Black-bellied Malkoha	<i>Phaenicophaeus diardi</i>	クロバンケンモドキ	1	R
11	Collared Scops Owl	<i>Otus bakkamoena</i>	インドオオコノハズク	3	R
12	Large-tailed Nightjar	<i>Caprimulgus macrurus</i>	オビロヨタカ	2	R
13	Stork-billed Kingfisher	<i>Pelargopsis capensis</i>	コウハシショウビン	1	R
14	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	アオショウビン	3	R
15	Black-capped Kingfisher	<i>Halcyon pileata</i>	ヤマショウビン	2	M
16	Common Kingfisher	<i>Alcedo atthis</i>	カワセミ	2	R
17	Racket-tailed Treepie	<i>Crypsirina temia</i>	クロラケットオナガ	1	R
18	Pied Fantail	<i>Rhipidura javanica</i>	ムナオビオウギビタキ	3	R
19	Taiga Flycatcher	<i>Ficedula albicilla</i>	オジロビタキ	1	M
20	Oriental Magpie-Robin	<i>Copsychus saularis</i>	シキチョウ	6	R
21	Streak-eared Bulbul	<i>Pycnonotus blanfordi</i>	ミミジロヒヨドリ	1	R
22	Striated Grassbird	<i>Megalurus palustris</i>	オニセツカ	3	R
23	Oriental Reed Warbler	<i>Acrocephalus orientalis</i>	オオヨシキリ	1	M
24	Black-browed Reed Warbler	<i>Acrocephalus bistrigiceps</i>	コヨシキリ	4	M
25	Dusky Warbler	<i>Phylloscopus fuscatus</i>	ムジセツカ	2	M
26	Arctic Warbler	<i>Phylloscopus borealis</i>	メボソムシクイ	1	M
27	Common Tailorbird	<i>Orthotomus sutorius</i>	サイホウチョウ	2	R
28	Eurasian Tree Sparrow	<i>Passer montanus</i>	スズメ	1	R
29	Black-headed Munia	<i>Lonchura malacca</i>	キンパラ	18	R

Total 29 species

72

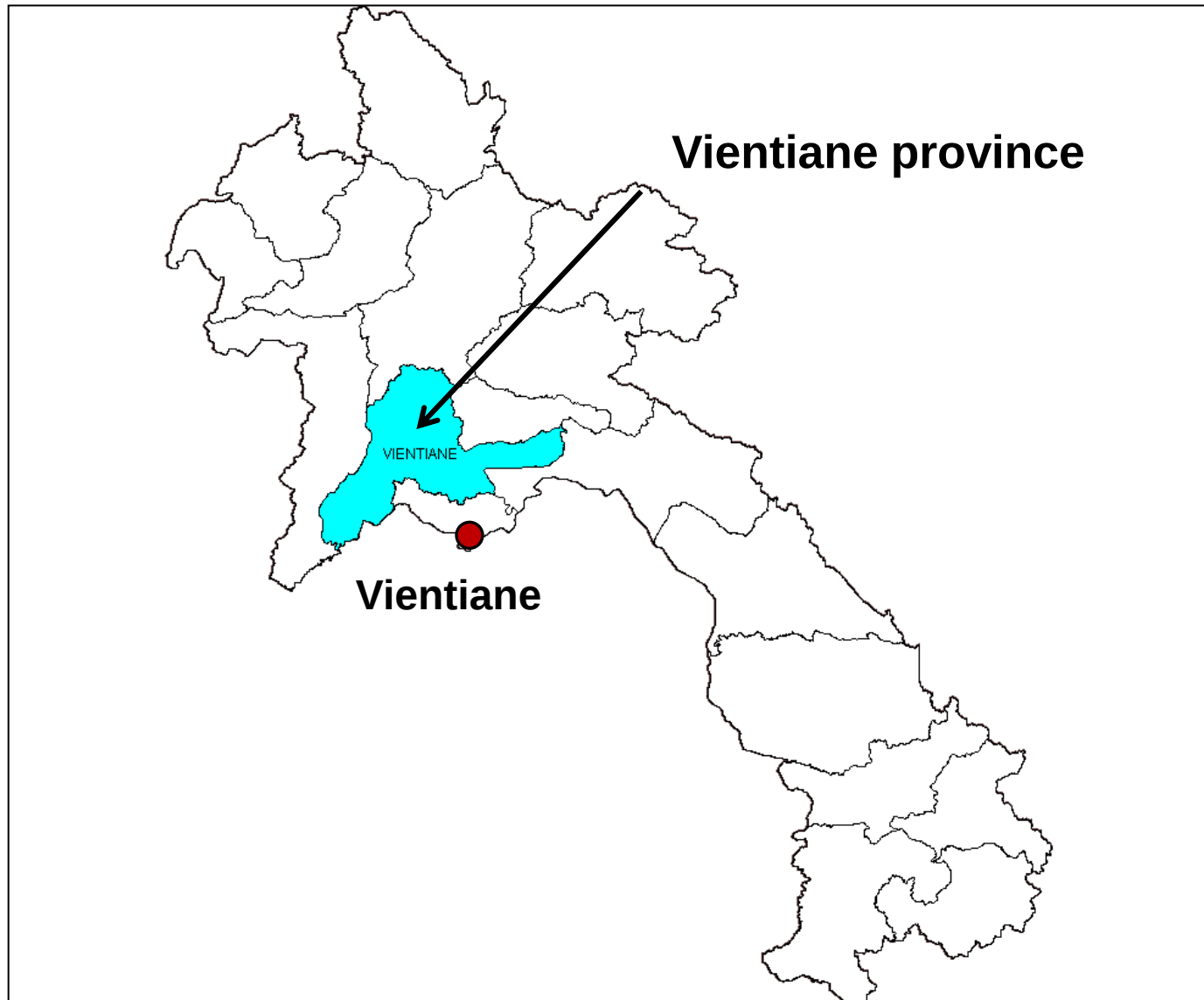
*: R = resident M = migratory (R = 16, M = 7, R / M = 6)

Sample collections from wild birds in North and South

South	1 st Apr. '09	2 nd Mar. '10	4 th Feb. '11	6 th Feb. '12	Total
Wild bird	105	107	111	96	419
Environment	84	20	32	10	146

North	1 st Mar. '09	2 nd Jan. '10	Total
Wild bird	77	111	188
Environment	46	11	57

Laos, March 2010





Vientiane, Laos and Nong Samhok Lake



Nong Samhok Lake and Banding Site



Laos, March 2010

	No. of bird/Sample tested	AI Virus test
Wild bird	111 (37 species)	0
Environment	24	0



Setting up mist nets in the field



Yamashina Wild Bird Survey Team



Lesser Whistling Duck (*Dendrocygna javanica*)







Nong Samhok, Vientiane, Laos, 3 - 9 March 2010 :

Captured Birds

	English Name	Scientific Name	和名	Numbers	M / R *
1	Lesser Whistling-Duck	<i>Dendrocygna javanica</i>	リュウキュウガモ	1	R
2	Common Kingfisher	<i>Alcedo atthis</i>	カワセミ	2	R
3	Collared Scops Owl	<i>Otus bakkamoena</i>	インドオオコノハズク	1	R
4	Spotted Dove	<i>Streptopelia chinensis</i>	カノコバト	1	R
5	Zebra Dove	<i>Geopelia striata</i>	チョウショウバト	1	R
6	Little Ringed Plover	<i>Charadrius dubius</i>	コチドリ	1	R
7	Cattle Egret	<i>Bubulcus ibis</i>	アマサギ	1	M or R
8	Yellow Bittern	<i>Ixobrychus sinensis</i>	ヨシゴイ	1	M
9	Brown Shrike	<i>Lanius cristatus</i>	アカモズ	1	M
10	Pied Fantail	<i>Rhipidura javanica</i>	ムナオビオウギビタキ	1	R
11	Black-naped Monarch	<i>Hypothymis azurea</i>	クロエリヒタキ	1	R
12	Taiga Flycatcher	<i>Ficedula albicilla</i>	オジロビタキ	5	M
13	Blue-throated Flycatcher	<i>Cyornis rubeculoides</i>	ムネアカヒメアオヒタキ	1	R
14	Siberian Rubythroat	<i>Luscinia calliope</i>	ノゴマ	7	M
15	White-rumped Shama	<i>Copsychus malabarius</i>	アカハラシキチョウ	2	R
16	Siberian Stonechat	<i>Saxicola maurus</i>	ノビタキ	12	M
17	Japanese White-eye	<i>Zosterops japonicus</i>	メジロ	10	M
18	Strip-throated Bulbul	<i>Pycnonotus finlaysoni</i>	キビタイヒヨドリ	4	R
19	Streak-eared Bulbul	<i>Pycnonotus blanfordi</i>	ミミジロヒヨドリ	3	R
20	Grey-breasted Prinia	<i>Prinia hodgsonii</i>	ハイムネハウチワドリ	1	R
21	Plain Prinia	<i>Prinia inornata</i>	マミハウチワドリ	5	R
22	Bright-headed Cisticola	<i>Cisticola exilis</i>	タイワンセッカ	2	R
23	Japanese Bush Warbler	<i>Cettia diphone</i>	ウグイス	1	M
24	Rusty-rumped Warbler	<i>Locustella certhiola</i>	シベリアセンニュウ	1	M
25	Black-browed Reed Warbler	<i>Acrocephalus bistrigiceps</i>	コヨシキリ	8	M
26	Thick-billed Warbler	<i>Acrocephalus aedon</i>	ハシブトオオヨシキリ	5	M
27	Common Tailorbird	<i>Orthotomus sutorius</i>	オナガサイホウチョウ	1	R
28	Dark-necked Tailorbird	<i>Orthotomus atrogularis</i>	ノドグロサイホウチョウ	4	R
29	Dusky Warbler	<i>Phylloscopus fuscatus</i>	ムジセッカ	14	M
30	Radde's Warbler	<i>Phylloscopus schwarzi</i>	カラフトムジセッカ	1	M
31	Pale-legged Leaf-Warbler	<i>Phylloscopus tenellipes</i>	アムールムシクイ	1	M
32	Two-barred Greenish Warbler	<i>Phylloscopus plumbeitarsus</i>	ヤナギムシクイ	1	M
33	Grey-crowned Warbler	<i>Seicercus tephrocephalus</i>	ハイガシラモリムシクイ	1	R
34	Abbott's Babbler	<i>Malacocincla abbotti</i>	ハシブトムジチメドリ	1	R
35	Puff-throated Babbler	<i>Pellorneum ruficeps</i>	ムナフジチメドリ	2	R
36	Striped Tit Babbler	<i>Macronous gularis</i>	ムナフムシクイチメドリ	5	R
37	Ruby-cheeked Sunbird	<i>Anthreptes singalensis</i>	ホオアカコバンタイヨウチョウ	1	R
Total	37 species			111	

* : M = migratory R = resident

Total : M = 68 individuals / 14 species R : 42 individuals / 22 species M or R : 1 individual / 1 species

Brown Shrike



Siberian
Rubythroat



Thick-billed Warbler



Taiga
Flycatcher



Thank you for your attention!