Avian Influenza
(April-June 2023)

Inma Aznar

Team Leader Animal Health

BIOHAW Unit

EUROPEAN FOOD SAFETY AUTHORITY

QUARTERLY MONITORING REPORTS

- **Update of the avian influenza situation in poultry, captive and wild birds in Europe and beyond**
  - **Spatio-temporal distribution**
  - **Evolution of the epidemic**
  - **Characteristics of the poultry production systems affected**

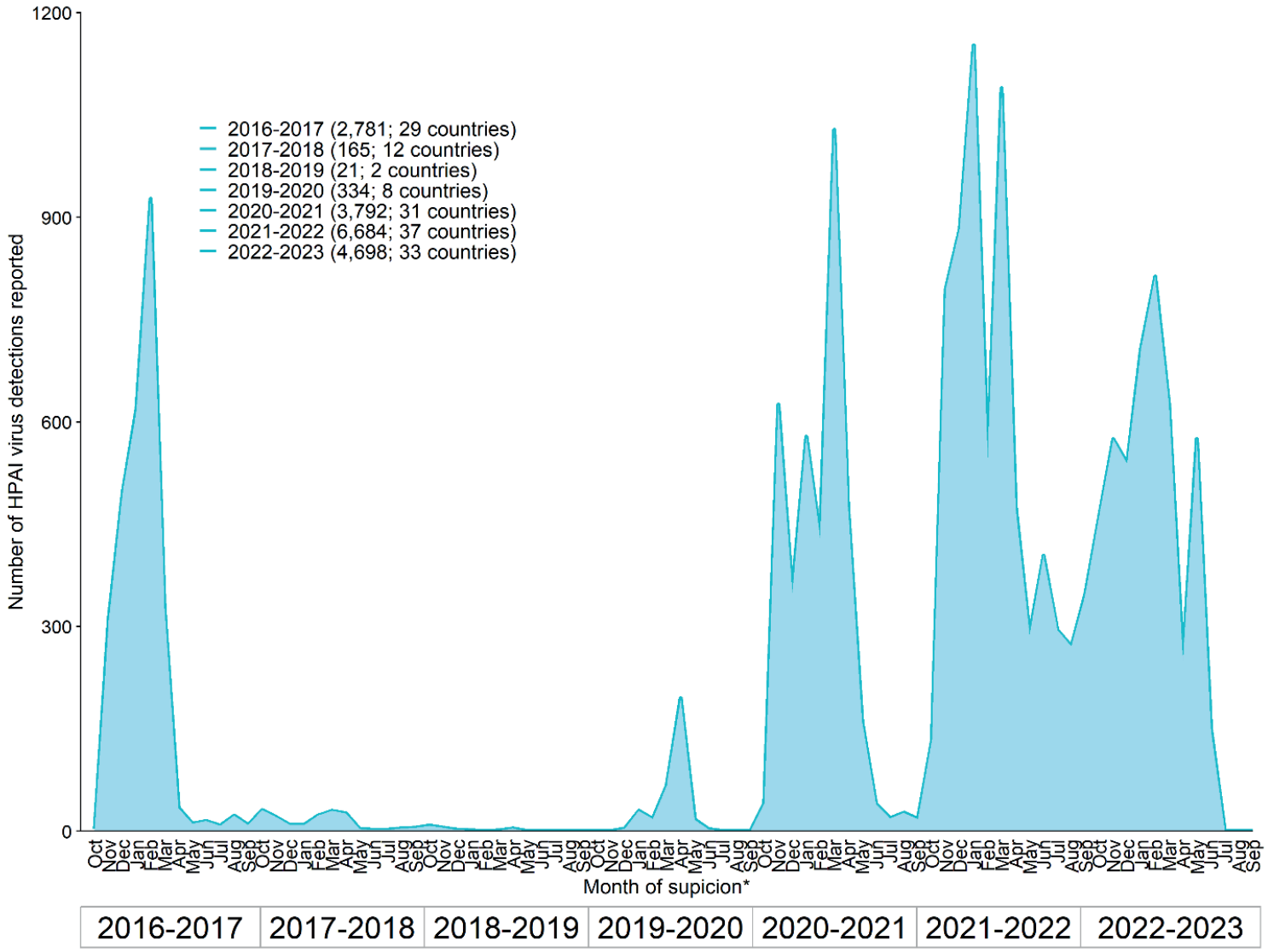
Lisa Kohnle

Francesca Baldinelli

- **Joint** SCIENTIFIC REPORT ecdc EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL Istituto Zooprofilattico Sperimentale delle Venezie efsa JOURNAL

- **Currently published on a bimonthly basis.**
- **Next publication 13th July 2023**

OVERALL EPI CURVE SINCE 2016 (DOMESTIC AND WILD BIRDS)



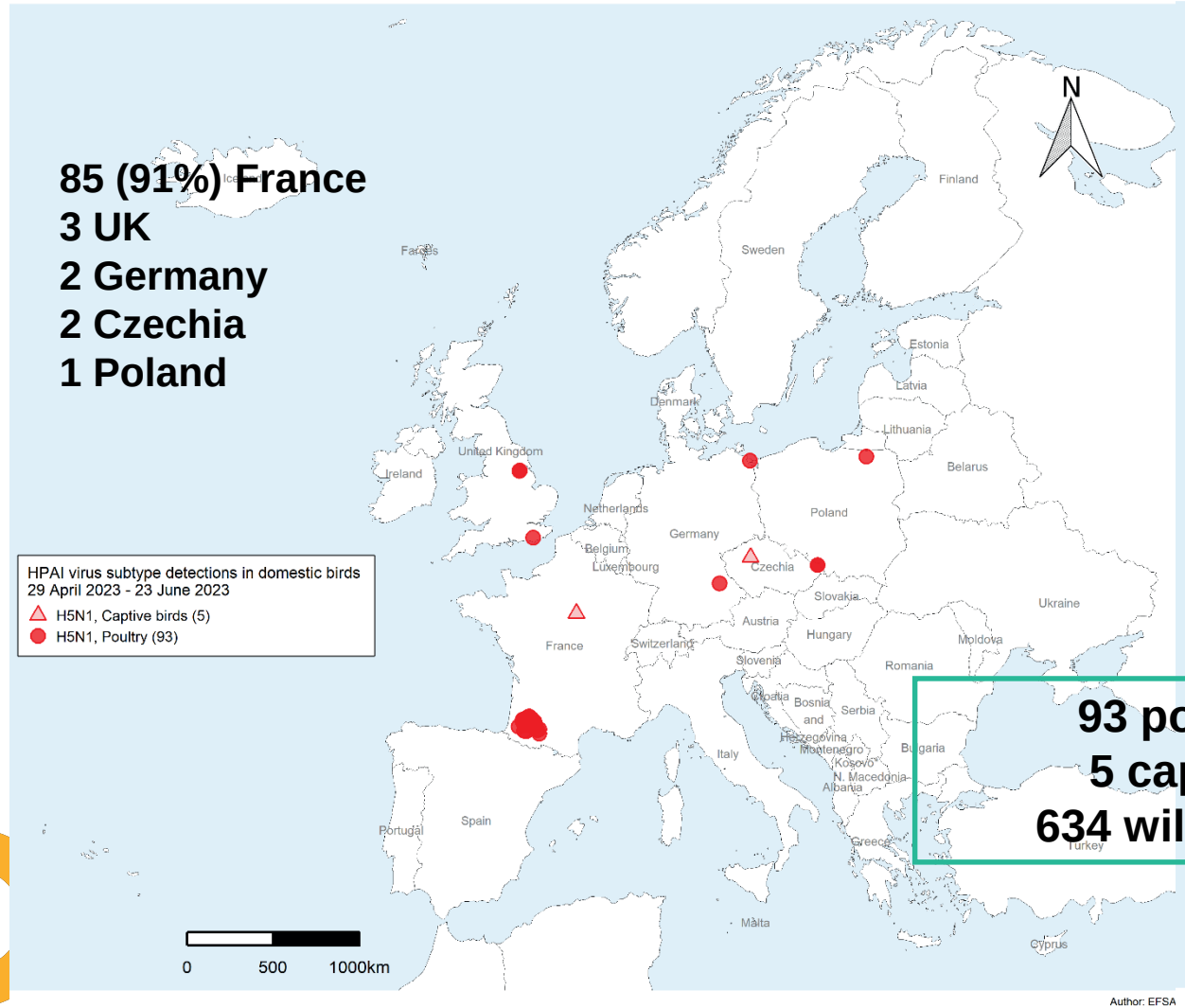
2021-2022 (6,684; 37 countries)

2022-2023 (4,698; 33 countries)

CURRENT REPORTING PERIOD (29APRIL-23JUNE)

POULTRY

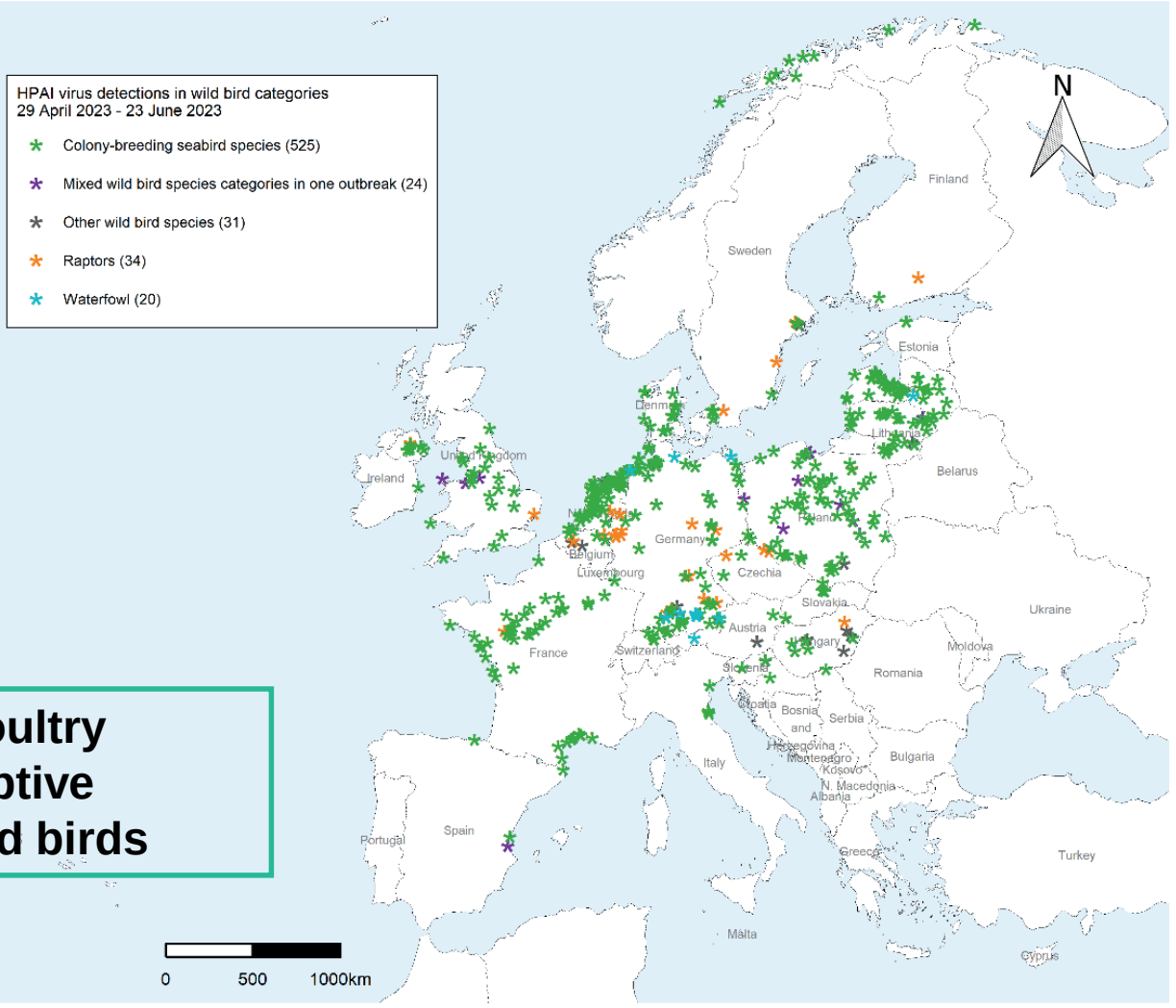
85 (91%) France
3 UK
2 Germany
2 Czechia
1 Poland



93 poultry
5 captive
634 wild birds

Author: EFSA
Data sources: ADIS, WOAH
Date updated: 23/06/2023

WILD BIRDS



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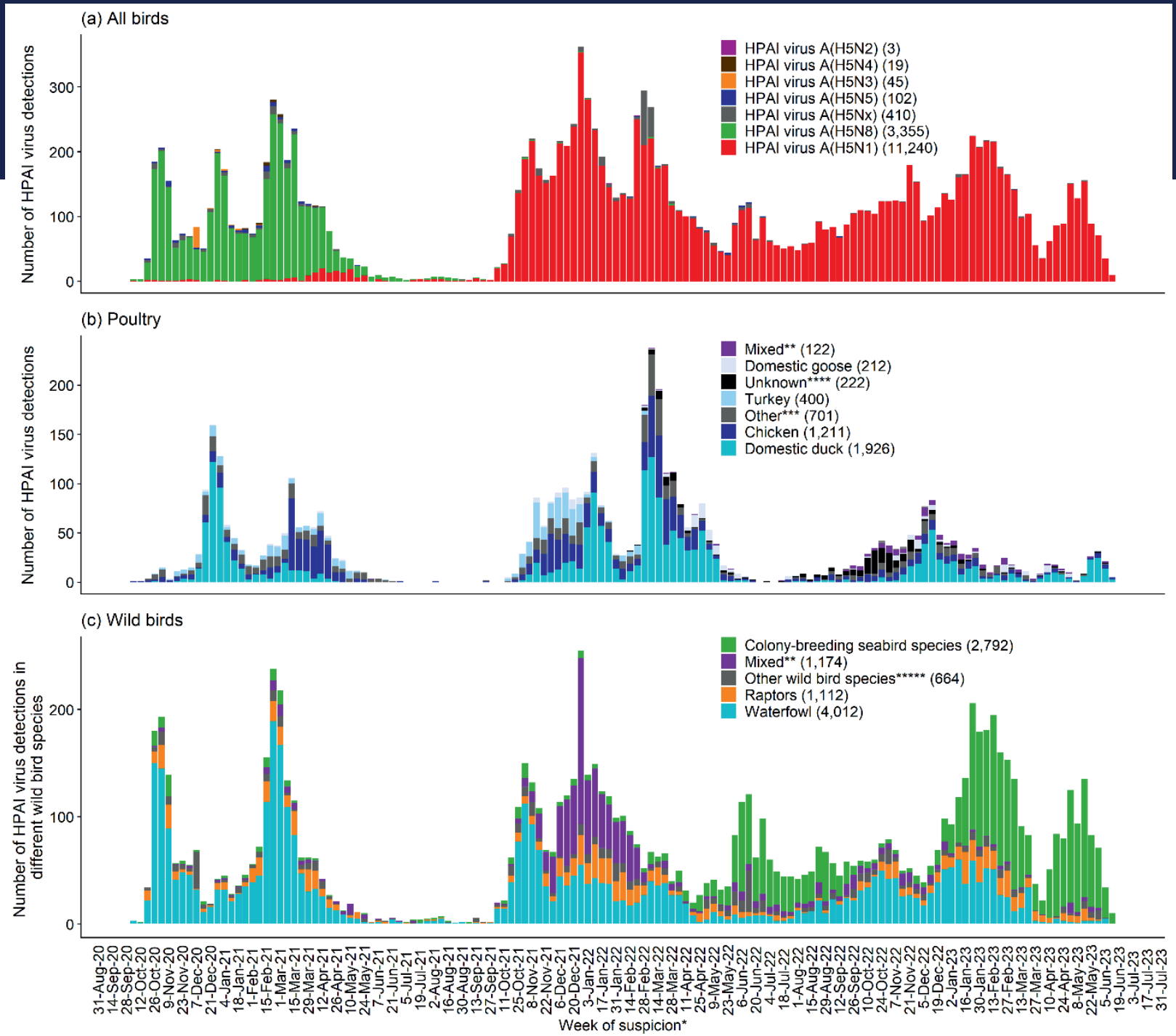
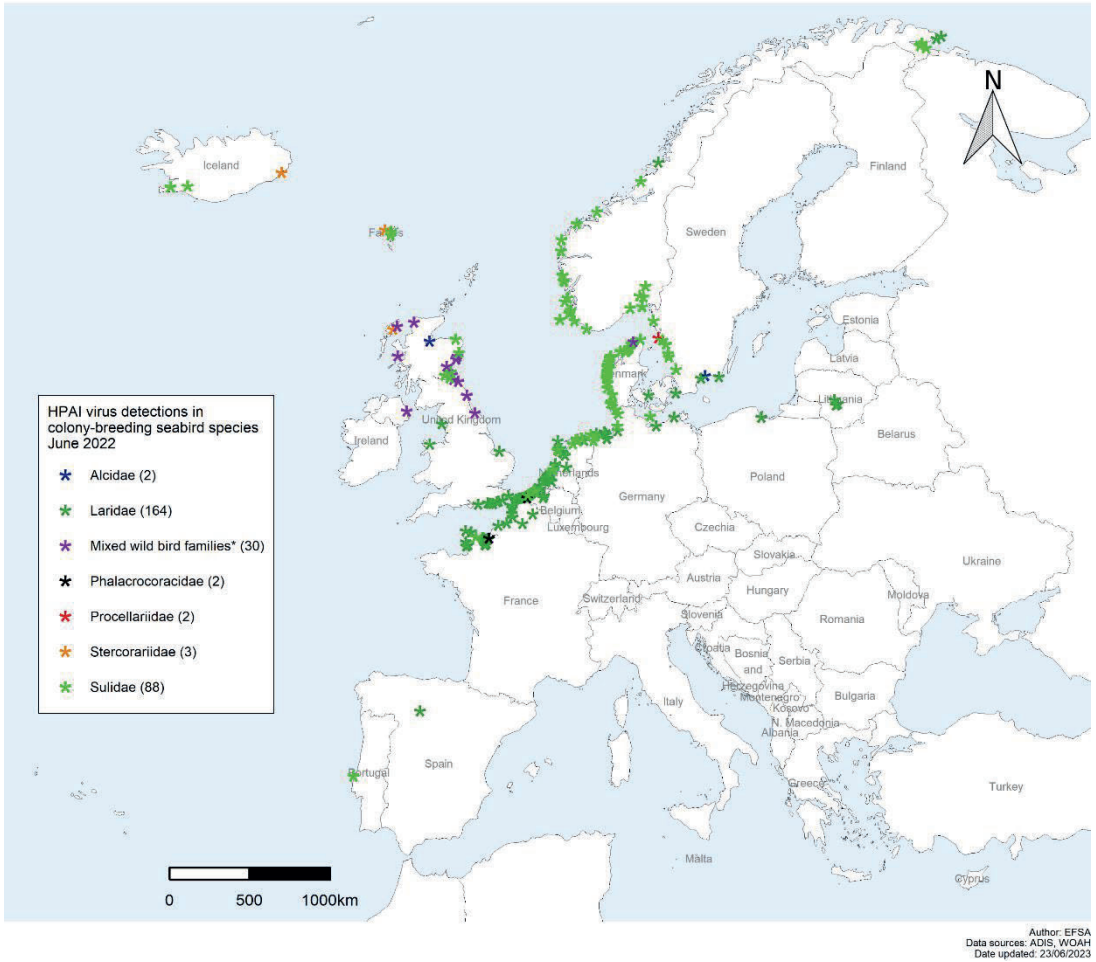
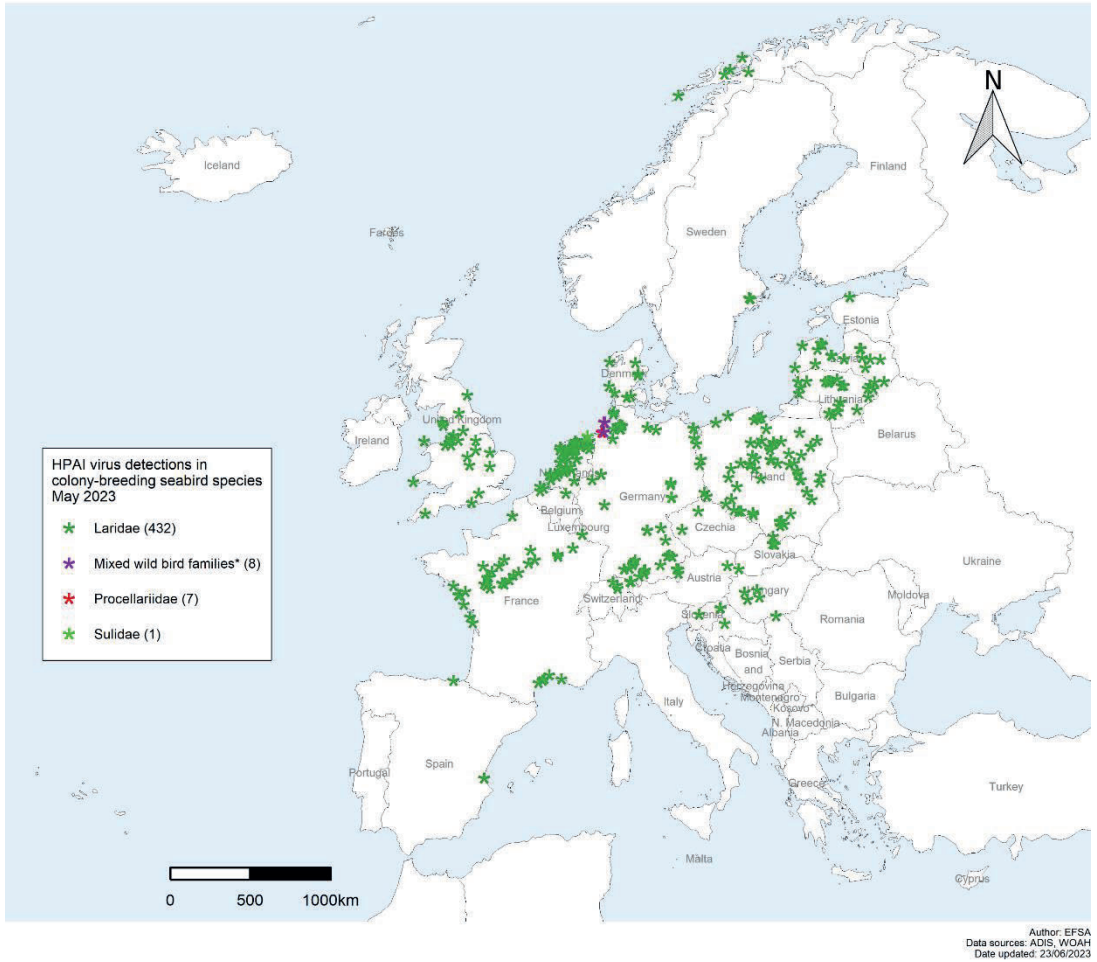


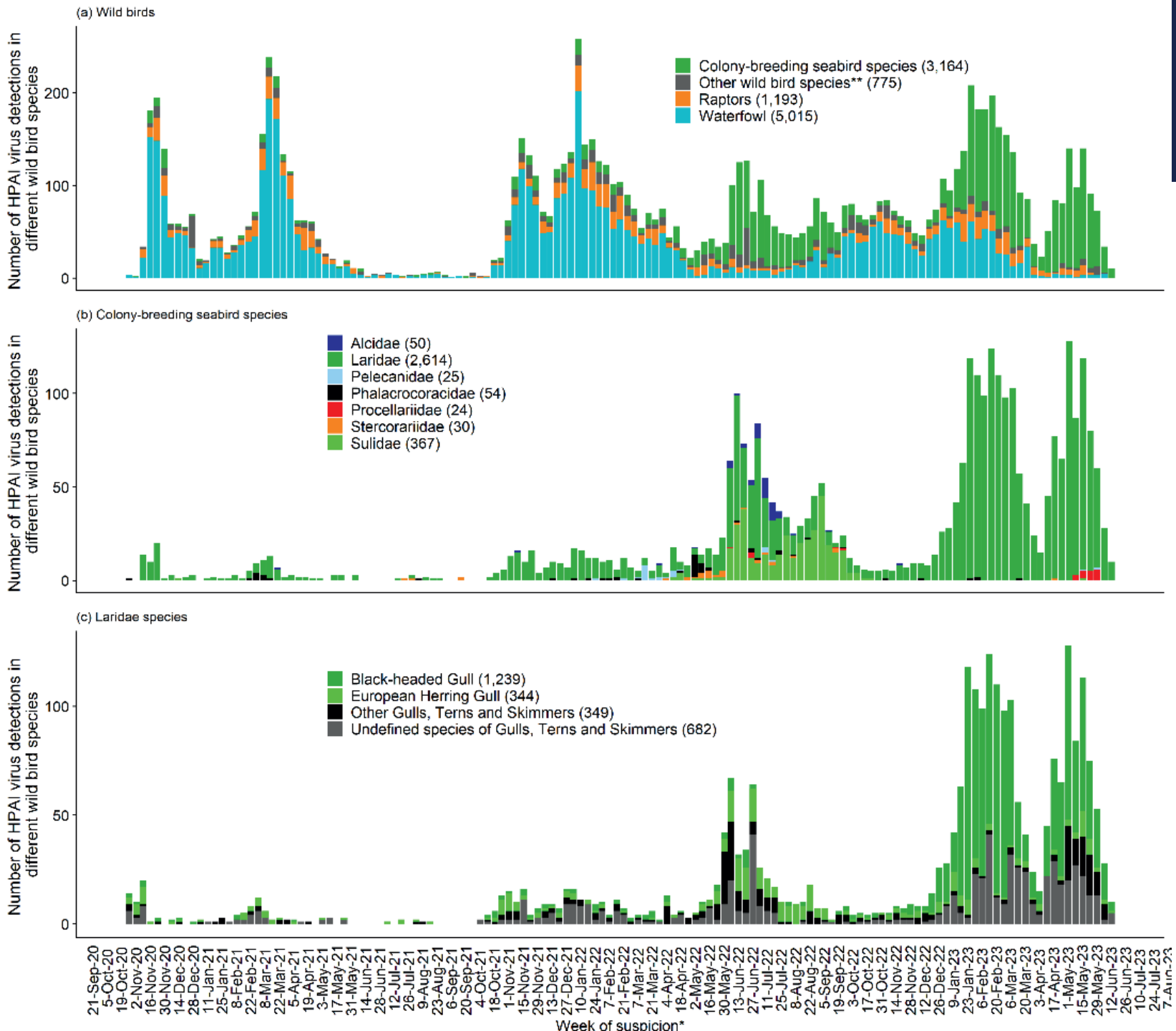
EPI CURVE SINCE 2020

POULTRY AND WILD BIRDS

WILD BIRDS: JUNE 2022 VS JUNE 2023







EPI CURVE SINCE 2020

WILD BIRDS

POULTRY AND WILD BIRD DETECTIONS OUTSIDE EUROPE

Region	Country	Domestic birds			Wild birds			Total
		A(H5N1)	A(H5Nx)	A (Not typed)	A(H5N1)	A(H5Nx)	A (Not typed)	
Africa (6)	South Africa	-	-	1	-	-	5	**6**
Americas (68)	Argentina	-	10	-	-	-	-	**10**
	Brazil	-	-	-	41	-	-	**41**
	Canada	1	-	-	-	-	-	**1**
	Chile	1	-	-	-	-	-	**1**
	Paraguay	-	5	-	-	-	-	**5**
	United States of America	4	1	-	1	-	-	**6**
	Uruguay	-	3	-	-	1	-	**4**
Asia (5)	Nepal	5	-	-	-	-	-	**5**
Europe (42)	Russia	4	-	-	38	-	-	**42**
Total		**15**	**19**	**1**	**80**	**1**	**5**	**121**

MOLECULAR ANALYSIS

- A(H5N1) viruses circulating in birds in Europe during the 2022–2023 epidemiological year indicate that they continue to be **well-adapted to avian species**, as they retain a **preferential binding for avian-like receptors**

- **Molecular markers** associated with an increased replication and/or virulence in mammals were **rarely detected in birds**

- About **half of the characterised viruses obtained from mammals contain at least one of the adaptive markers** associated with an increased virulence and replication in mammals in the PB2 protein (E627K, D701N or T271A)

- These mutations have rarely been identified in the HPAI A(H5) viruses of clade 2.3.4.4b collected in birds in Europe since October 2020. This observation suggests that **these mutations with potential public health implications have likely emerged upon transmission to mammals**

DETECTIONS IN MAMMALS

- **Wild and domestic carnivores** continue to be the most affected mammalian species by HPAI viruses. Mass mortality events in sea lions continue in South America
- Five asymptomatic dogs and one cat were found serologically positive for HPAI A(H5N1) in Italy
- In **Poland: 47 animals tested (46 cats and a desert lynx) and 25 positive**. Uncertainties around the source of infection. A number of mutations among the viruses from cats (multiple sources of infection of highly related viruses, can not be ruled out)
- The presence in all the characterised viruses of two molecular markers of virus adaptation to mammals (in the cats), may increase the zoonotic potential of this strain.

WHAT TO EXPECT

- In the coming weeks, **only sporadic HPAI outbreaks** are expected to occur **in poultry in Europe**, however, more extensive secondary spread cannot be excluded if outbreaks occurred in high-density poultry production areas

- It is expected that **outbreaks in wild birds will continue during the summer months** all across Europe (juveniles fledging and dispersing from their colony sites). The risk exists that virus will be present more widely in the environment (but high temperatures might contribute to the opposite)

- The are **indications of inter-continental spread of the virus through wild bird migrations** (recent identification of A(H5N5) viruses of Eurasian origin in Canada and A(H5N1) viruses of African origin detected along the European Mediterranean coasts)

- As predicted in the previous report, HPAI A(H5N1) virus has **spread from black-headed gulls to other seabird species**. This will likely continue

OPTIONS FOR RESPONSE: BIRDS

- **Targeted active surveillance in wild birds particularly in waterfowl**
- **Enhanced species identification**
- **Close monitoring of seabird breeding colonies for unusual mortalities**
- **Preparedness and prevention strategies primarily in high density poultry areas**
- **Timely generation and sharing of genome sequence data (promptly detection of viruses with mutations associated with increased zoonotic potential, resistance towards antiviral drugs, or different antigenic properties)**

OPTIONS FOR RESPONSE: MAMMALS

- **Increased surveillance of HPAI virus in wild and free-roaming domestic carnivores is in areas with extensive HPAI virus spread in the wild bird population (e.g. mass mortality events) and epidemics in poultry (including investigation of disease dynamics)**

- **Timely detection and reporting of virus detections in mammals is recommended**

- **Domestic mammals with specific clinical signs (e.g. acute neurological signs, paralysis, epilepsy and mortality) as well as co-living domestic mammals should be closely monitored and tested for infection with HPAI virus, in particular in areas with extensive spread of the virus in wild birds.**

- **Avoid exposure of domestic cats and dogs, and in general carnivore pets, to dead or diseased animals (mammals and birds), and to avoid feeding raw meat from wild birds or poultry**

OPTIONS FOR RESPONSE: MAMMALS

- **Extended and enhanced syndromic surveillance in both wild mammals (particularly deceased carnivores) and farmed mammals (particularly American mink and domestic pigs) in risk areas where HPAI virus contamination in wild birds and poultry is high**

- **Timely generation and sharing of genome sequence data (promptly detection of viruses with mutations associated with increased zoonotic potential, resistance towards antiviral drugs, or different antigenic properties)**

- **Preparedness and prevention strategies primarily in high density poultry areas**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