**Objectives**:

During migration between Europe and Africa, migratory birds carry and circulate numerous pathogens with a major impact on animal and human health, whether viruses, bacteria, or parasites. However, they can also be carriers of opportunistic micromycetes sucha as *Candida* or *Aspergillus* species. These fungi – especially *Aspergillus fumigatus*- can produced co-infection with viruses in Human as it is the case for the Influenza A (König S *et al*, 2024 ; Huang L *et al*, 2018). The aim of our work is to explore whether there is a link in the circulation (or co-circulation) of fungi and bird-related pathogens via migratory birds.

**Materials & Methods:**

A research was performed on co-infection or co-circulation of fungi with other pathogens from migratory birds in Europe and Africa in 4 differents databases following the PRISMA guidelines alongside a research of the all the pathogens from migratory birds. The following keywords were used : ("migratory birds" OR "wild bird" OR "waterfowl") AND ("pathogens" OR "microorganism including fungii” AND ("infection" OR "detection" OR "disease") AND ((europe[MeSH Terms]) OR (africa[MeSH Terms])). Every articles were selected in a first step base on their title and abstract by two independent reviewersfollowed by a second step of selection through the full-text. Every data reported in the articles were exported and analysed by using the following software: Microsoft Excel, RStudio, Jamovi and QGIS.

**Results**:

Unfortunately, only few publication (n=5) were found in several European countries. No African countries were reported (figure 1). Out of the 5 publications, three were specifically about fungi, one reported fungii alonside bacteria meanwhile the last reported fungi alongside bacteria and viruses. All the fungi detected were from 15 genera: 3 yeasts and 12 filamentous fungi. Out of the filamentous genera, the *Aspergillus* genus was the most detected in Spain with a mean prevalence of 2,02% in 5 differents Anatidae species, and *Cladosporium* was the most reported in Italy (70,90%). Meanwhile, the yeast genera (mainly *Candida* species) were reported in Italy and in the Balkans from the passeriform. The analyses about the potential correlation between fungi and other pathogens are in process.

**Discussion & Conclusions**:

Our preliminary data have shown that various species of birds migrating between Europe and Africa, but also within the continents, can be carriers of fungi. This is all the more important as these birds are carriers of zoonotic viruses such as West Nile virus in passeriform, bacteria as the the *Chlamydia* genus and viruses as the Newcastle virus and the avian flu virus in Anatidae . This data coupled with other data found in birds (Akter *et al*, 2020) show that diverse migratory birds can be potent carriers of fungi however. While the low number of articles limit the analysis power, a better monitoring of fungi associated with migratory birds would be of major interest both to monitor potential fungal circulation via migratory avifauna but also to determine if there is any correlations with the circulation of other (such as viral) pathogens leading to potential coinfection.



**Figure 1** : Map of the European and African countries which reported fungi in migratory birds and their potential migration pathway.

**Références :**

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