

Alien plants of Europe: introduction pathways, gateways and time trends

BACKGROUND

The Convention on Biological Diversity (CBD) pathways classification framework used in the implementation of the European Union's (EU) Regulation 1143/2014 on invasive alien species (IAS Regulation) has recently been adopted by the European Alien Species Information Network (EASIN), the official information system supporting the implementation of the IAS Regulation.



Using the CBD framework, we aligned the primary introduction pathways of all alien plants of Europe that are featured in the EASIN catalogue.

ALIEN IN EUROPE AND ALIEN TO EUROPE

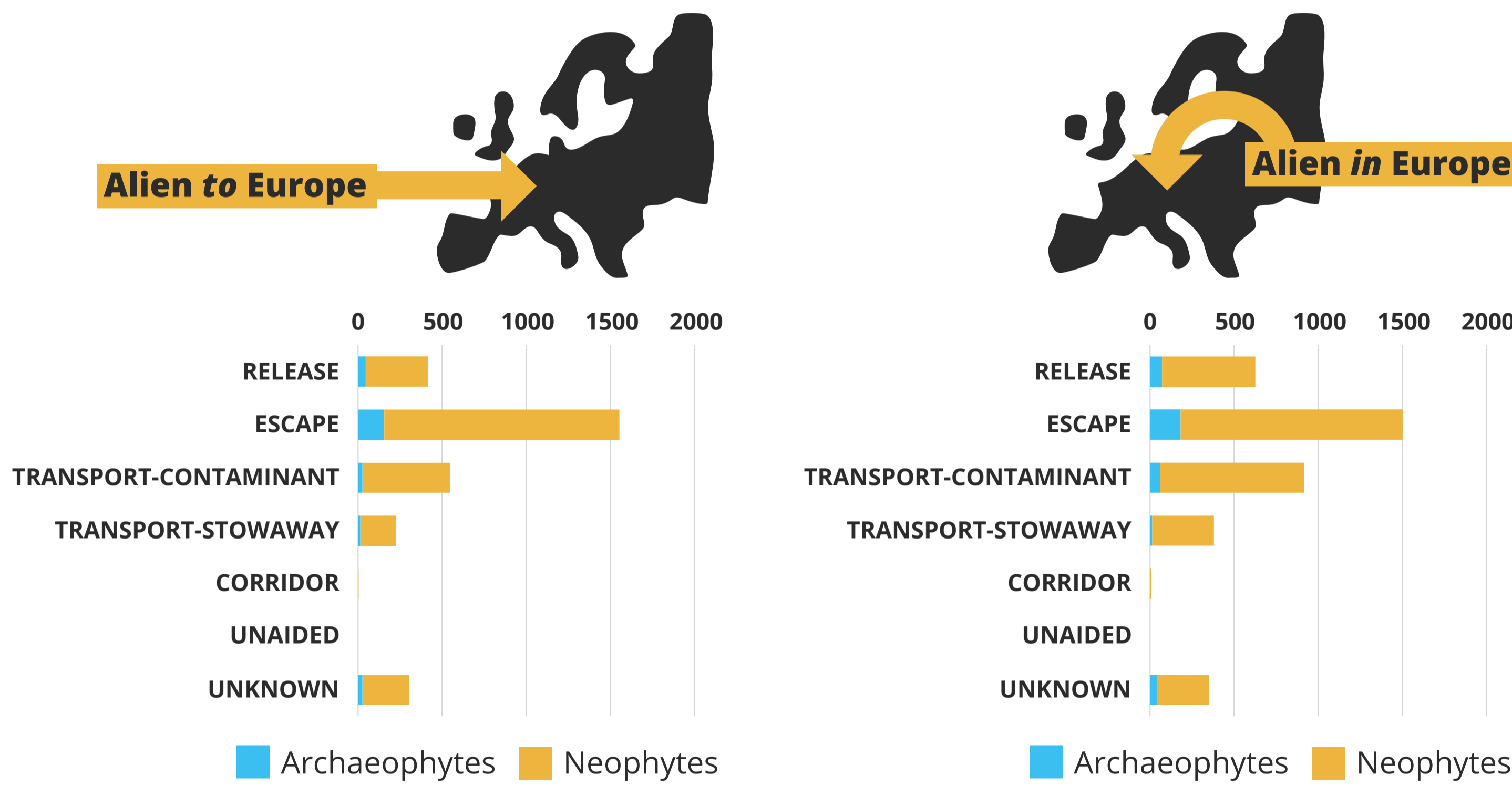
In total, 6,250 alien plant taxa (marine plants excluded), both alien to Europe (native range outside Europe) and alien in Europe (native range partially in Europe) are reported. Altogether 5,175 plant taxa's primary introduction pathways were aligned based on the CBD framework, while for the rest the pathway remains unknown. In addition, the taxonomy, year and country where it was first recorded in the wild are provided for each taxon.



RESULTS

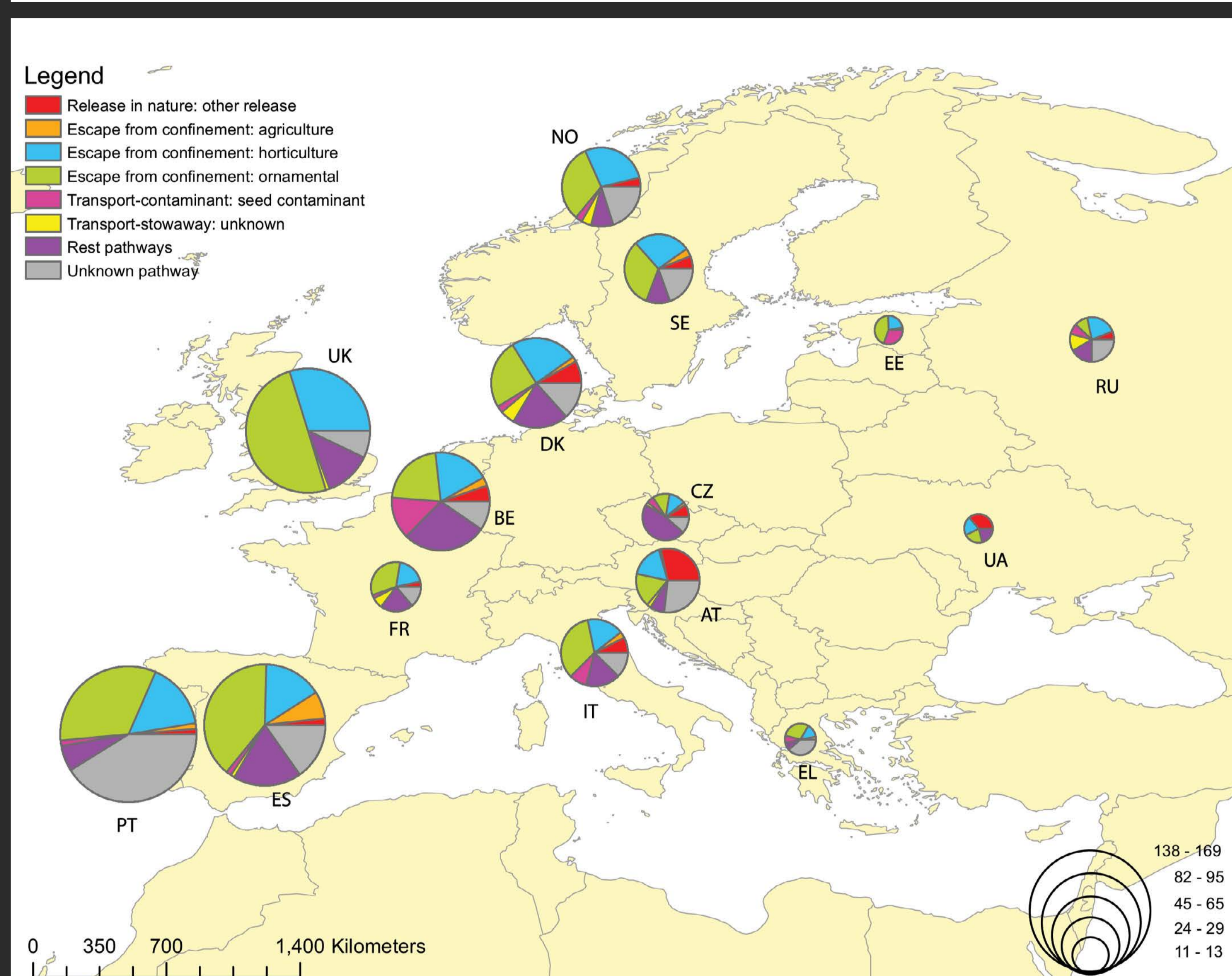
Our analyses reveal that alien plants' main primary introduction pathways into Europe are linked to accidental escapes from ornamental and horticultural activities.

CBD PRINCIPAL INTRODUCTION PATHWAYS FOR ALIEN PLANTS OF EUROPE.



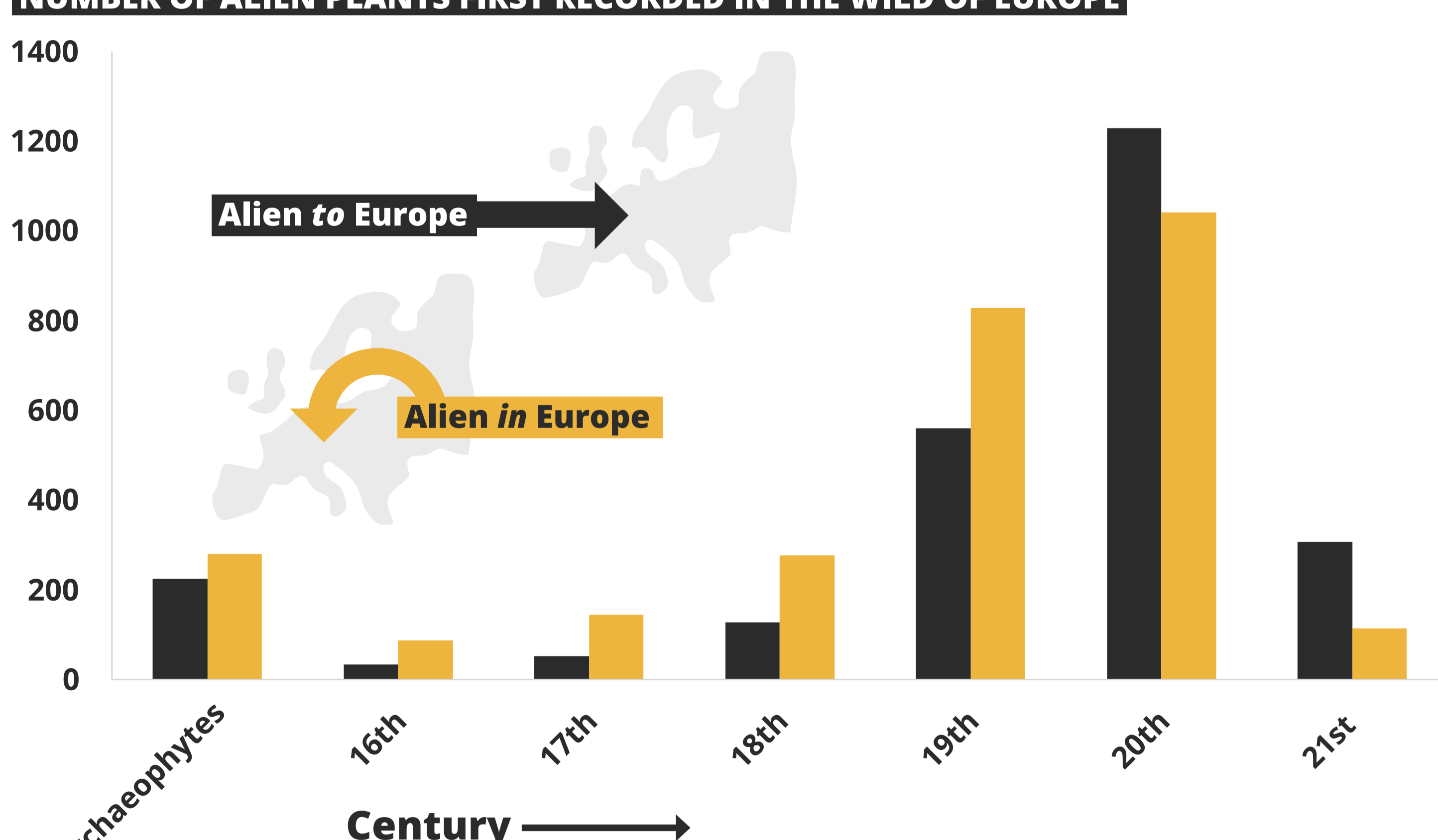
Northwestern European countries seem to act as the main gateway areas for alien plants of Europe.

TOTAL NUMBER OF FIRST INTRODUCTION EVENTS OF TAXA ALIEN TO EUROPE AFTER 1950



Recent first observations of new alien taxa growing spontaneously exhibit a contemporary accelerating trend for plants alien to Europe, particularly linked to ornamental and horticultural activities. On the other hand, the number of new plants alien in Europe seems to have stabilized over the last few decades.

NUMBER OF ALIEN PLANTS FIRST RECORDED IN THE WILD OF EUROPE



CONCLUSION

The present work can help prioritize introduction pathway control to slow down the rate of alien plants introduced into Europe following IAS Regulation requirements.