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Conference Abstract

Can internet platform activity data systematically accelerate detection of alien species invasions across the EU?

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Abstract

Accelerating detection of invasive alien species (IAS) spread is becoming increasingly important to more effectively allocate the limited resources available for their management. One largely untapped secondary data source lies in the automated tracking of internet activity such as IAS search intensity or mentions across internet platforms. We evaluated the feasibility of tracking IAS spread into new EU countries by combining data from multiple internet platforms covering 88 IAS of European concern. In total, 14 platforms were screened and evaluated based on data accessibility and mined data quality. Our investigation indicates that access to minimal data required for IAS tracking (i.e., information about location, time and place) is overall quite limited and particularly difficult without incurring significant costs for many of the larger platforms (X, Google and Tiktok). From the explored species, more active and easily recognizable taxa (i.e., mammals) overall gained more online traction than more cryptic ones (i.e., plants), though online activity of the former proved a less reliable representation of real-world occurrence patterns. Additionally, while the final five selected internet platforms showed

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increased activity surrounding the year of invasion in many of the explored invasion scenarios (particularly Wikipedia and Facebook), we found inconsistencies between species groups and trends per platform. We conclude that online platforms show potential as a complementary data source for IAS occurrences but limited access points, variable data quality, limited data validation capacities and privacy legislation currently hinder the creation of fully automated data mining and publication pipelines.

Keywords

Invasive alien species, iEcology, Europe, Invasion biology, Online data, Bio-informatics, Early warning, Species detection, Social media

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Conflicts of interest

The authors have declared that no competing interests exist.