

Introducing “Alien Floras and Faunas”, a new series in Biological Invasions

Petr Pyšek  · Laura A. Meyerson  · Daniel Simberloff

Published online: 13 December 2017
© Springer International Publishing AG, part of Springer Nature 2017

Global knowledge on the distribution of alien animal species in regions around the world has dramatically improved in the last decade (e.g., Kraus 2009; Capinha et al. 2015; Dyer et al. 2017), and recently much information has also become available for plants (van Kleunen et al. 2015; Pyšek et al. 2017). This is an important development because many of the current theories of the distribution, causes, and consequences of biological invasions are based on macroecological analyses of regional floras and faunas (e.g., Jeschke and Strayer 2005; Cadotte et al. 2006; Lambdon et al. 2008; Blackburn et al. 2009; Capinha et al. 2015). However, there are still major gaps in data availability

and the quality of information varies among regions (van Kleunen et al. 2015).

The new series launched in this issue of *Biological Invasions* thus aims to collect papers that provide information on complete alien floras or faunas of large regions; they can be complete checklists of all alien biota including casual, non-established taxa, or checklists of all naturalized (established) or invasive species occurring in a given region. Authors are invited to submit papers for this series in which they will describe the structure of the studied alien flora or fauna of the target region (for example, in terms of geographic origin, life histories, invaded habitat, time of introduction or introduction pathways), possibly accompanied by an analysis of basic patterns of alien species richness, diversity, or impacts, as well as factors underlying variation in these characteristics.

Submissions must clearly describe criteria used to identify species as alien, and to classify them according to their invasion status, and how these criteria relate to definitions used in invasion biology (e.g., Richardson et al. 2000; Blackburn et al. 2011). The geographic region for which the alien species diversity is reported must be clearly delimited and characterized. It is assumed that submissions will mostly refer to a large geographic scale (countries/states and administrative units within large countries; e.g., see van Kleunen et al. 2015; Pyšek et al. 2017).

Full species lists with other relevant available information (such as distribution in subunits of the

P. Pyšek—Associate Editor for Series on Alien Floras and Faunas.

P. Pyšek (✉)
Institute of Botany, The Czech Academy of Sciences,
Průhonice, Czech Republic
e-mail: pysek@ibot.cas.cz

P. Pyšek
Department of Ecology, Faculty of Science, Charles
University, Prague, Czech Republic

L. A. Meyerson
University of Rhode Island, Woodward Hall, 9 East,
Alumni Avenue, Kingston, RI 02881, USA
e-mail: lameyerson@uri.edu

D. Simberloff
University of Tennessee, Knoxville, TN, USA
e-mail: dsimberloff@utk.edu

target region where applicable, time of introduction into the region, habitat affinities, whether or not the taxon is invasive, or pathways of introduction into the region) must be published with the paper in the form of electronic supplementary material (preferably as an excel spreadsheet).

Papers published in *Biological Invasions* in the last decade that would have qualified for inclusion in the series span a wide range of taxonomic groups and geographic areas for which complete inventories of alien species were compiled (e.g., Novillo and Ojeda 2008; Borroto-Páez 2009; Galil 2009; Arianoutsou et al. 2010; Kull et al. 2012; Khuroo et al. 2012). We believe that the newly introduced Alien Floras and Faunas series, starting in this issue with an inaugural paper by Inderjit et al. (2017), based on thoroughly revisited information on the alien flora of India, will stimulate rapid closing of many existing gaps in our knowledge of regional alien species richness.

References

- Arianoutsou M, Bazos I, Delipetrou P, Kokkoris Y (2010) The alien flora of Greece: taxonomy, life traits and habitat preferences. *Biol Invasions* 12:3525–3549. <https://doi.org/10.1007/s10530-010-9749-0>
- Blackburn TM, Lockwood JL, Cassey P (2009) Avian invasions: the ecology and evolution of exotic birds. Oxford University Press, Oxford
- Blackburn TM, Pyšek P, Bacher S, Carlton JT, Duncan RP, Jarošík V, Wilson JR, Richardson DM (2011) A proposed unified framework for biological invasions. *Trends Ecol Evol* 26:333–339. <https://doi.org/10.1016/j.tree.2011.03.023>
- Borroto-Páez R (2009) Invasive mammals in Cuba: an overview. *Biol Invasions* 11:2279–2290. <https://doi.org/10.1007/s10530-008-9414-z>
- Cadotte MW, Murray BR, Lovett-Doust J (2006) Ecological patterns and biological invasions: using regional species inventories in macroecology. *Biol Invasions* 8:809–821. <https://doi.org/10.1007/s10530-005-3839-4>
- Capinha C, Essl F, Seebens H, Moser D, Pereira HM (2015) The dispersal of alien species redefines biogeography in the Anthropocene. *Science* 348:1248–1251. <https://doi.org/10.1126/science.aaa8913>
- Dyer EE, Cassey P, Redding DW, Collen B, Franks V, Gaston KJ, Jones KE, Kark S, Orme CD, Blackburn TM (2017) The global distribution and drivers of alien bird species richness. *PLoS Biol* 15:e2000942. <https://doi.org/10.1371/journal.pbio.2000942>
- Galil BS (2009) Taking stock: inventory of alien species in the Mediterranean sea. *Biol Invasions* 11:359–372. <https://doi.org/10.1007/s10530-008-9253-y>
- Inderjit PJ, van Kleunen M, Hejda M, Babu CR, Majumdar S, Singh P, Singh SP, Salamma S, Rao BRP, Pyšek P (2017) Naturalized alien flora of the Indian states: biogeographic patterns, taxonomic structure and drivers of species richness. *Biol Invasions*. <https://doi.org/10.1007/s10530-017-1622-y> (in press)
- Jeschke JM, Strayer DL (2005) Invasion success of vertebrates in Europe and North America. *Proc Natl Acad Sci USA* 102:7198–7202. <https://doi.org/10.1073/pnas.0501271102>
- Khuroo AA, Reshi ZA, Malik AH, Weber E, Rashid I, Dar GH (2012) Alien flora of India: taxonomic composition, invasion status and biogeographic affiliations. *Biol Invasions* 14:99–113. <https://doi.org/10.1007/s10530-011-9981-2>
- Kraus F (2009) Alien reptiles and amphibians: a scientific compendium and analysis. Springer, Berlin
- Kull CA, Tassin J, Moreau S, Ramirantsoa HR, Blanc-Pamard C, Carriere SM (2012) The introduced flora of Madagascar. *Biol Invasions* 14:875–888. <https://doi.org/10.1007/s10530-011-0124-6>
- Lambdon PW, Pyšek P, Basnou C, Arianoutsou M, Essl F, Hejda M, Jarošík V, Pergl J, Winter M, Anastasiu P, Andriopoulos P, Bazos I, Brundu G, Celesti-Grappo L, Chassot P, Delipetrou P, Josefsson M, Kark S, Klotz S, Kokkoris Y, Kühn I, Marchante H, Perglová I, Pino J, Vilà M, Zikos A, Roy David, Hulme PE (2008) Alien flora of Europe: species diversity, temporal trends, geographical patterns and research needs. *Preslia* 80:101–149
- Novillo A, Ojeda RA (2008) The exotic mammals of Argentina. *Biol Invasions* 10:1333–1344. <https://doi.org/10.1007/s10530-007-9208-8>
- Pyšek P, Pergl J, Essl F, Lenzner B, Dawson W, Kreft H, Weigelt P, Winter M, Kartesz J, Nishino M, Antonova LA, Barcelona JF, Cabezas FJ, Cárdenas D, Cárdenas-Toro J, Castaño N, Chacón E, Chatelain C, Dullinger S, Ebel AL, Figueiredo E, Fuente N, Genovesi P, Groom QJ, Henderson L, Inderjit, Kupriyanov A, Masciadri S, Maurel N, Meerman J, Morozova O, Moser D, Nickrent D, Nowak PM, Pagad S, Patzelt A, Pelsner PB, Seebens H, Shu W, Thomas J, Velayos M, Weber E, Wieringa JJ, Baptiste MP, van Kleunen M (2017) Naturalized alien flora of the world: species diversity, taxonomic and phylogenetic patterns, geographic distribution and global hotspots of plant invasion. *Preslia* 89:203–274. <https://doi.org/10.23855/preslia.2017.203>
- Richardson DM, Pyšek P, Rejmánek M, Barbour MG, Panetta FD, West CJ (2000) Naturalization and invasion of alien plants: concepts and definitions. *Diversity Distrib* 6:93–107
- van Kleunen M, Dawson W, Essl F, Pergl J, Winter M, Weber E, Kreft H, Weigelt P, Kartesz J, Nishino M, Antonova LA, Barcelona JF, Cabezas FJ, Cárdenas D, Cárdenas-Toro J, Castaño N, Chacón E, Chatelain C, Ebel AL, Figueiredo E, Fuentes N, Groom QJ, Henderson L, Inderjit, Kupriyanov A, Masciadri S, Meerman J, Morozova O, Moser D, Nickrent DL, Patzelt A, Pelsner PB, Baptiste MP, Poopath M, Schulze M, Seebens H, Shu WS, Thomas J, Velayos M, Wieringa JJ, Pyšek P (2015) Global exchange and accumulation of non-native plants. *Nature* 525:100–103. <https://doi.org/10.1038/nature14910>