

Abstract of Contribution 229

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Marsh frog invasions across Europe: multiple lineages, ecological opportunism, risk and conservation perspectives

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Whereas some biological invasions are well documented, others, more cryptic, are often underestimated despite multiple local warnings. This is the case of marsh frogs for which there is a lack of an integrative overview of its invasion patterns and risks to biodiversity. To fill this gap, we carried out an inter-disciplinary study in phylogenetics, spatial and trophic ecology. We found out that introductions involved dozens of localities and many lineages, originating from three continents, fitting well with the history of importations of live frogs in Europe. They gave rise to nation-wide invasions, facilitated by the wide ecological tolerance of the invaders and resulting in large niche overlaps with native amphibians. Marsh frogs showed also a high trophic opportunism, predated on most native amphibians but also on many invertebrate taxa and threatening some emblematic species. Altogether, these results rank the marsh frogs as one of the most complex invasive amphibian species in the world. They call for the conservation of structured and vegetated ponds to buffer the impact of invaders as well as a complete commercial ban on importation of live water frogs to prevent the opening of the Pandora box which may result from new lineage combinations in invaded territories.

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