

Chapter 14

Glossary of the Main Technical Terms Used in the Handbook

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Throughout the *Handbook* a variety of terms have been used to describe the origin and status of alien species, their residency, the invasibility of ecosystems and the pathways of introduction. We have attempted to use these terms consistently in the *Handbook* and provide a glossary of definitions. The meaning of these technical terms is based on previously published terminology and reflects how particular categories were understood during the production of the *Handbook*. It should be made clear that we do not propose a new set of definitions; rather we hope to achieve a broad consensus among different subdisciplines of invasion biologists. Further details of terminology, including additional terms, can be found in the reference list at the end of the glossary.

14.1 Origin and Invasion Status

Acclimatised/casual taxa (synonymous not established, adventive) are aliens that may reproduce occasionally outside cultivation or captivity in a region, but eventually die out because they do not form self-sustaining populations without human intervention, and rely on repeated introductions for their persistence (Richardson et al. 2000; Pyšek et al. 2004; Copp et al. 2005). The latter terms is usually used for plants, the former for animals.

Adventive: see Acclimatised taxa

Alien taxa (synonymous exotic, non-native, non-indigenous, allochthonous) are species, subspecies or lower taxa introduced outside of their natural range (past or present) and outside of their natural dispersal potential. Their presence in the given region is due to intentional or unintentional introduction or care by humans, or they have arrived there without the help of people from an area in which they are alien. This includes any part, gamete or propagule of such species that might survive and subsequently reproduce (IUCN 2000, 2002; Pyšek et al. 2004).

Allochthonous: see Alien taxa

Casual: see Acclimatised taxa

Cryptogenic taxa are those of unknown origin which can not be ascribed as being native or alien (Carlton 1996).

Established: see Naturalised taxa

Feral animals/crops are those that have reverted/escaped to the wild from domesticated/cultivated stock (e.g., has undergone some change in phenotype, genotype and/or behaviour as a result of artificial selection in captivity) (IUCN 2000, 2002; Elvira 2001).

Invasive taxa are a subset of naturalised/established alien taxa, that produce reproductive offspring, often in very large numbers and have potential to spread exponentially over a large area, thus rapidly extending their range (Richardson et al. 2000; Occhipinti-Ambrogi and Galil 2004; Pyšek et al. 2004). This is usually associated, although not necessarily for an organism to qualify as invasive (Richardson et al. 2000; Elvira 2001), with causing significant harm to biological diversity, ecosystem functioning, socio-economic values and human health in invaded regions. From an ecological point of view, invasiveness is not bound to a type of habitat, hence a species may be invasive in natural/semi-natural or human-made habitats (Richardson et al. 2000). For conservation purposes, the term invasive usually relates to natural or semi-natural ecosystems or habitats (IUCN 2000, 2002).

Native taxa (synonymous indigenous) are those that have originated in a given area without human involvement or that have arrived there from an area in which they are native without intentional or unintentional intervention of humans. The definition excludes products of hybridisation involving alien taxa since human involvement in this case includes the introduction of an alien parent (Pyšek et al. 2004).

Naturalised/established taxa are aliens that form free-living, self-sustaining (reproducing) and durable populations persisting in the wild in a region unsupported by and independent of humans (IUCN 2000, 2002; Richardson et al. 2000; Occhipinti-Ambrogi and Galil 2004; Pyšek et al. 2004). The former terms is usually used for plants, the latter for animals.

Non-indigenous: see Alien taxa

Non-native: see Alien taxa

Pests are animals (not necessarily alien) that live in places where they are not wanted and which have detectable economic or environmental impact or both.

Reintroduced taxa are those deliberately released by humans into a geographic area, in which they were native in historical times but where they subsequently became extinct (Elvira 2001).

Weeds are plants (not necessarily alien) that grow in sites where they are not wanted and which have detectable economic or environmental impact or both (Pyšek et al. 2004).

14.2 Residence Time Status

Archaeophytes/archaeomycetes/archaeozoans are alien plants/fungi/animals introduced to a region during the period since the beginning of Neolithic agriculture and before the discovery of America by Columbus in 1492 (Kowarik and Starfinger 2003; Pyšek et al. 2004).

Neophytes/neomycetes/neozoans are alien plants/fungi/animals introduced to a region after 1492, together referred to as neobiota (Kowarik and Starfinger 2003; Pyšek et al. 2004).

Residence time is the time since the introduction of a taxon to a region; as it is usually not known exactly when a taxon was introduced, the term ‘minimum residence time’ (MRT) has been suggested and used in the literature (Rejmánek 2000).

14.3 Invasibility of Habitats, Ecosystems and Regions

Invasibility: an inherent property of habitats/ecosystems/regions, resulting from the habitat/region/ecosystem’s resistance to invasion and manifested in the rate of mortality of alien taxa (Lonsdale 1999). Technically, it can be expressed as the number or proportion of alien taxa in a habitat/region/ecosystem when the effects of propagule pressure and confounding variables are held constant (Chytrý et al. 2008).

Level of invasion: the actual number of alien taxa in a habitat/region/ecosystem (Hierro et al. 2005)

Propagule: a structure with the capacity to give rise to a new individual. For plants this can be a seed, a spore, a bulb, or a part of the vegetative body capable of independent growth if detached from the parent. For animals, this includes eggs, larvae, neonates or individual organisms.

Propagule pressure: the number of propagules arriving to a site, habitat, ecosystem or region (Williamson 1996; Lonsdale 1999). Propagule is any part of a plant or animal which can be dispersed and give rise to an individual.

14.4 Pathways of Introduction

Contaminant: unintentional introduction with a specific commodity, e.g., parasites, pests and commensals of traded plants and animals (Hulme et al. 2008).

Dispersal by corridor: unintentional introduction via human infrastructures linking previously unconnected regions, e.g., species migrating from the Red to the Mediterranean Sea through the Suez canal (Hulme et al. 2008).

Escape: intentional introduction as a commodity but escapes unintentionally, e.g., feral crops and livestock, pets, garden plants, live bait (Hulme et al. 2008).

Intentional introduction: deliberate movement and/or releases by humans, past or present, of an alien species outside its natural distribution range (Occhipinti-Ambrogi and Galil 2004; Hulme et al. 2008).

Introduction: the movement, by human agency, of a species, subspecies, or lower taxon (including any part, gamete or propagule that might survive and subsequently reproduce) outside its past or present natural range (IUCN 2000, 2002). This movement can be either within a country or between countries.

Release: intentional introduction as a commodity for release in the wild, e.g., as biocontrol agents, game animals, plants for erosion control, landscaping or enrichment of native flora (Hulme et al. 2008).

Stowaway: unintentional introduction attached to or within a transport vector, e.g., hull fouling, ballast/water/soil and sediment organism, on car tyres; refers to species that have been introduced accidentally but are not known to be associated with any particular commodity (Hulme et al. 2008).

Unaided dispersal: unintentional introduction through natural dispersal of alien species across political borders; refers to species that have spread via spontaneous means from an introduced population elsewhere in non-native distribution range (Hulme et al. 2008).

Unintentional introduction: all other introductions which are not intentional (Hulme et al. 2008).

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