

**Supplementary Table 1.** A list of traits and their states (for traits with multiple categories), trait description according to LEDA (Kleyer et al., 2008) and BiolFlor (Klotz et al., 2002) databases, sources data bases, type of trait variable and the proportion of total species number with missing data for each trait. \* multiple states are possible for a single species.

<b>Trait</b>	<b>Trait range or states (species number)*</b>	<b>Description</b>	<b>Source data base</b>	<b>Variable type</b>	<b>Proportion (%) of total species number with missing data</b>
Begin of flowering	January - August	Start of flowering period (month)	BiolFlor; Catminat; Multiple online sources	circular	0
Duration of flowering	January - December	Duration of flowering period (month)	BiolFlor; Catminat; Multiple online sources	quantitative	0
Life span	annual (228)	The individual cycle lasts for a maximum of one year (12 months)	BiolFlor; Ecoflora	binary	0
	biannual (73)	The plant has a vegetative growth for approx. one year before reaching the generative phase after which it completes its life cycle			
	perennial (350)	The plant has more than one generative phase in its life			

	pluriannual (33)	The plant has a vegetative growth longer than one year (up to 5 years) before completing its life cycle after the first and only generative reproduction stage			
	Apomixis (1)	Asexual reproduction, no fertilization			
	Geitonogamy (13)	Pollination by a neighboring flower			
Pollination vector	Insects (442)	Pollination by insects	BiolFlor; Ecoflora; Catminat	binary	0
	Self spontaneous (366)	Spontaneous pollination within a flower			
	Water (1)	Pollination on or below water			
	Wind (156)	Pollination by wind			
	Self dispersal (227)	Seed dispersal by an explosive mechanism, by gravity, by autonomous placement of seeds or daughter plant away from mother plant			
Seed dispersal mode	Dispersal by wind (338)	Seed dispersal by wind and by rolling over soil with wind	BiolFlor; Catminat	binary	0.1
	Dispersal by animals (505)	Seed dispersal by hoarding by animals, dispersed after digestion or by adhesion on animals			
	Dispersal by human activity (357)	Seed dispersal by trading of seeds/plants and with agricultural seeds			

	Dispersal by water flows (383)	Seed dispersal by surface currents and by raindrops			
Type of reproduction	s (297)	Reproduction only by seed or by spore			
	ssv (39)	Reproduction is mostly by seed, rarely vegetative			
	sv (205)	Reproduction can be by seed and vegetative equally	BiolFlor; Ecoflora	ordinal	0.1
	vvs (22)	Reproduction is mostly vegetative, rarely by seed			
	v (2)	Reproduction is only vegetative			
Seed weight	$5 \cdot 10^{-5} - 2.3 \cdot 10^2$ mg	Mean of seed weight	LEDA; TRY; Multiple online sources	quantitative	2.29
LDMC	49.96 - 403.1 (mg/g)	Leaf Dry Mass Content is a measure of tissue density; it is the ratio dry leaf mass to fresh leaf mass	LEDA; TRY	quantitative	14
Leaf size	$4.2 - 3.3 \cdot 10^5$ (mm <sup>2</sup> )	Leaf size is the one-sided projected surface area of an individual leaf or lamina	LEDA; TRY; Multiple online sources	quantitative	19.8
SLA	3.6 - 75 (mm <sup>2</sup> /mg)	Specific Leaf Area is a ratio of fresh leaf area to leaf dry mass	LEDA; TRY	quantitative	9.65
Plant height	0.03 - 5.5 (meters)	Mean distance between ground and the highest photosynthetic tissue of plant	BiolFlor; Multiple online sources	quantitative	0