

*Seleção sexual em plantas*

## **UMA REVISÃO SOBRE A SELEÇÃO SEXUAL EM PLANTAS**

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**Material Suplementar 1.** Espécies de plantas em que a seleção sexual foi estudada. Hermafrodita (H), Dioica (D), Monoica (M), Andromonoica (AM), Androdioica (AD), Ginodioica (GD), função feminina (f), função masculina (m). As referências indicadas com “\*” sinalizam trabalhos conduzidos a partir de experimentos genéticos, químicos ou fisiológicos, com “\*\*” indicam estudos teóricos e as demais representam aqueles baseados em experimentos comparativos.

**Supplementary Material 1.** Plant species in which sexual selection has been studied. Hermaphrodit (H), Dioecious (D), Monoecious (M), Andromonoecious (AM), Androdioecious (AD), Ginodioecious (GD), female function (f), male function (m). References indicated with “\*” show studies conducted from genetic, chemical or physiological experiments, with “\*\*” indicate theoretical studies and the remaining represent those based on comparative experiments.

FAMÍLIA	ESPÉCIE	SISTEMA SEXUAL	FUNÇÃO SEXUAL ESTUDADA	FONTE
Acanthaceae	<i>Ruellia subsessilis</i> (Nees) Lindau	H	f	Miranda & Vieira (2014)
Alismataceae	<i>Sagittaria latifolia</i> Willd.	D / M	m/f	Glaettli & Barrett (2008), Yakimowski <i>et al.</i> (2011), Dorken & Perry (2017)**
Astroemeriaeae	<i>Alstroemeria aurea</i> Graham	H	m	Aizen & Basilio (1998)
Amaryllidaceae	<i>Hippeastrum striatum</i> (Lam.) H.E.Moore	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Narcissus assoanus</i> Dufour ex Schult. & Schult.f.	H	f	Stehlik <i>et al.</i> (2006)
	<i>Narcissus triandrus</i> L.	H	f	Hodgins & Barrett (2006)
Apiaceae	<i>Angelica sylvestris</i> L.	AM	m	Stpiczyńska <i>et al.</i> (2015)
Apocynaceae	<i>Asclepias curassavica</i> L.	H	m	Wolfe (1987)
	<i>Asclepias exaltata</i> L.	H	m	Queller (1983)
	<i>Asclepias quadrifolia</i> Jacq.	H	m	Pleasants & Chaplin (1983)

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Aquiloliaceae	<i>Asclepias speciosa</i> Torr.	H	m/f	Bookman (1984)
	<i>Asclepias syriaca</i> L.	H	m	Willson & Rathcke (1974), Bell (1985)**
	<i>Asclepias tuberosa</i> L.	H	m	Fishbein & Venable (1996)
	<i>Oxypetalum appendiculatum</i> Mart.	H	m	Cocucci <i>et al.</i> (2014)
	<i>Oxypetalum arnottianum</i> H.Buek	H	m	Cocucci <i>et al.</i> (2014)
	<i>Oxypetalum banksii</i> R.Br. ex Schult.	H	m	Cocucci <i>et al.</i> (2014)
	<i>Oxypetalum cordifolium</i> (Vent.) Schltr.	H	m	Cocucci <i>et al.</i> (2014)
	<i>Oxypetalum jacobinae</i> Decne.	H	m	Cocucci <i>et al.</i> (2014)
	<i>Oxypetalum solanoides</i> Hook. & Arn.	H	m	Cocucci <i>et al.</i> (2014)
	<i>Ilex crenata</i> Thunb. var. <i>crenata</i>	D	f	Matsuhsia & Ushimaru (2015)
Asparagaceae	<i>Ilex pedunculosa</i> Miq.	D	f	Matsuhsia & Ushimaru (2015)
	<i>Ilex serrata</i> Thunb.	D	f	Matsuhsia & Ushimaru (2015)
	<i>Agave mckelveyana</i> Gentry	H	m	Sutherland (1987)
Asteraceae	<i>Achillea ptarmica</i> L.	H	m	Andersson (1991)
Balsaminaceae	<i>Impatiens capensis</i> Meerb.	H	m	Bell (1985)**
Betulaceae	<i>Betula pendula</i> Roth	M	m/f	Pasonen <i>et al.</i> (2001)
	<i>Betula pubescens</i> Ehrh.	M	m	Holm (1994)
Bignoniaceae	<i>Campsis radicans</i> (L.) Seem.	H	m	Bertin (1990)
	<i>Incarvillea diffusa</i> Royle	H	m	Han <i>et al.</i> (2008)
	<i>Spathodea campanulata</i> P.Beauv.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Tabebuia aurea</i> (Silva Manso) Benth. & Hook.f. ex S.Moore	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Bixa orellana</i> L.	H	m/f	Ramesha <i>et al.</i> (2011)

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<b>Boraginaceae</b>	<i>Cryptantha flava</i> (A.Nelson) Payson	H	f	Casper (1988)
	<i>Cynoglossum officinale</i> L.	H	f	Melser & Klinkhamer (2001)
	<i>Echium vulgare</i> L.	H	m	Klinkhamer & Jong (1990)
<b>Brassicaceae</b>	<i>Phacelia linearis</i> (Pursh) Holz.	GD	m	Eckhart (1991)
	<i>Arabidopsis lyrata</i> (L.) O'Kane & Al-Shehbaz	H	f	Willi (2013)
	<i>Arabidopsis thaliana</i> (L.) Heynh.	H	m/f	Carlson <i>et al.</i> (2011)*, Carlson <i>et al.</i> (2013)*, Gerald <i>et al.</i> (2014)*, Gossmann <i>et al.</i> (2014)*
	<i>Brassica oleracea</i> L.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Brassica rapa</i> L.	H	m	Austen & Weis (2016)
	<i>Capsella grandiflora</i> (Fauché & Chaub.) Boiss.	H	m	Arunkumar <i>et al.</i> (2013)
	<i>Lesquerella fendleri</i> (A. Gray) S. Watson	H	m	Mitchell & Marshall (1998)
	<i>Physaria filiformis</i> (Rollins) O'Kane & Al-Shehbaz	H	m	Harder <i>et al.</i> (2016)
	<i>Raphanus raphanistrum</i> L.	GD	m/f	Stanton <i>et al.</i> (1986), Marshall (1988), Stanton & Preston (1988), Marshall & Whittaker (1989), Stanton <i>et al.</i> (1989), Devlin & Ellstrand (1990), Young & Stanton (1990), Marshall <i>et al.</i> (2007a), Marshall <i>et al.</i> (2007b), Marshall & Evans (2016)
<b>Burseraceae</b>	<i>Dacryodes excelsa</i> Vahl	D	m	Forero-Montaña & Zimmerman 2010
<b>Butomaceae</b>	<i>Butomus umbellatus</i> L.	H	m/f	Yang <i>et al.</i> (2013)
<b>Campanulaceae</b>	<i>Campanula americana</i> L.	H	m	Richardson & Stephenson (1992)
	<i>Cyananthus delavayi</i> Franch.	GD	m	Niu <i>et al.</i> (2015)

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<b>Capparaceae</b>	<i>Atamisquea emarginata</i> Miers ex Hook. & Arn.	H	m	Harder <i>et al.</i> (2016)
	<i>Capparis zeylanica</i> L.	H	m/f	Ramesha <i>et al.</i> (2011)
<b>Caricaceae</b>	<i>Jacaratia dolichaula</i> (Donn.Sm.) Woodson	D	m	Bawa (1980a)
<b>Caryophyllaceae</b>	<i>Dianthus chinensis</i> L.	H	m	Mulcahy & Mulcahy (1975)
	<i>Silene latifolia</i> Poir.	D	m/f	Delph <i>et al.</i> (2004)*, Teixeira <i>et al.</i> (2009)*, Waelti <i>et al.</i> (2009)
	<i>Silene vulgaris</i> (Moench) Garcke	D	m/f	Delph <i>et al.</i> (1998)*
<b>Cistaceae</b>	<i>Cistus salviifolius</i> L.	H	m/f	Arista & Ortiz (2007)
<b>Colchicaceae</b>	<i>Gloriosa superba</i> L.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Wurmbea dioica</i> (R.Br.) F.Muell.	D	m	Vaughton & Ramsey (1998)
<b>Convolvulaceae</b>	<i>Ipomoea carnea</i> Jacq.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Ipomoea purpurea</i> (L.) Roth	H	m	Schoen & Clegg (1985), McCallum & Chang (2016)
	<i>Ipomoea wolcottiana</i> Rose	H	m	Parra-Tabla & Bullock (2003)
<b>Costaceae</b>	<i>Costus guanaiensis</i> Rusby	H	m	Schemske & Fenster (1983)
<b>Cucurbitaceae</b>	<i>Cucumis sativus</i> L.	M	m/f	Haileselassie <i>et al.</i> (2005)
	<i>Cucurbita foetidissima</i> Kunth	GD	m	Winsor <i>et al.</i> (2000)
	<i>Cucurbita pepo</i> L.	H	m/f	Schlichting <i>et al.</i> (1990); Hayes <i>et al.</i> (2005)
<b>Euphorbiaceae</b>	<i>Dalechampia capensis</i> A.Spreng.	M	m	Armbruster <i>et al.</i> (1995)
	<i>Dalechampia cissifolia</i> Poepp.	M	m	Armbruster <i>et al.</i> (1995)
	<i>Dalechampia scandens</i> L.	M	m	Armbruster <i>et al.</i> (1995), Armbruster & Rogers (2004), Pélabon <i>et al.</i> (2015)*

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Fabaceae	<i>Dalechampia spathulata</i> (Scheidw.) Baill.	M	m	Armbruster <i>et al.</i> (1995)
	<i>Dalechampia subternata</i> Müll.Arg.	M	m	Armbruster <i>et al.</i> (1995)
	<i>Bauhinia variegata</i> L.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Caesalpinia gilliesii</i> (Hook.) D.Dietr.	H	m	Harder <i>et al.</i> (2016)
	<i>Cassia roxburghii</i> DC.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Crotalaria juncea</i> L.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Lotus corniculatus</i> L.	H	f	Stephenson & Winsor (1986)
	<i>Parkinsonia praecox</i> (Ruiz & Pav.) Hawkins	H	m	Harder <i>et al.</i> (2016)
	<i>Phaseolus coccineus</i> L.	H	f	Rocha & Stephenson (1991)
	<i>Prosopis nigra</i> Hieron.	H	m	Harder <i>et al.</i> (2016)
Geraniaceae	<i>Robinia pseudoacacia</i> L.	H	m/f	Yuan <i>et al.</i> (2016)*
	<i>Senna aphylla</i> (Cav.) H.S.Irwin & Barneby	H	m	Harder <i>et al.</i> (2016)
	<i>Vicia faba</i> L.	H	m	Suso & Río (2015)
	<i>Vigna unguiculata</i> (L.) Walp.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Geranium sylvaticum</i> L.	GD	m	Varga <i>et al.</i> (2013)
Gesneriaceae	<i>Besleria triflora</i> (Oerst.) Hanst.	AM	m	Podolsky (1992)
Lamiaceae	<i>Chrysanthemis friedrichsthaliana</i> (Hanst.) H.E.Moore	H	m	Carlson (2008)
	<i>Chrysanthemis friedrichsthaliana</i> (Hanst.) H.E.Moore	H	m	Carlson (2007)
	<i>Aegiphila odontophylla</i> Donn.Sm.	D	m	Kriebel (2014)
	<i>Ballota hirsuta</i> Benth.	H	m	Herrera (2004)
	<i>Lavandula latifolia</i> Medik.	H	m	Herrera (2004)

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	<i>Marrubium supinum</i> L.	H	m	Herrera (2004)
	<i>Orthosiphon aristatus</i> (Blume) Miq.	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Phlomis lychnitis</i> L.	H	m	Herrera (2004)
	<i>Rosmarinus officinalis</i> L.	H	m	Herrera (2004)
	<i>Teucrium rotundifolium</i> Schreb.	H	m	Herrera (2004)
	<i>Thymus vulgaris</i> L.	GD	m/f	Thompson <i>et al.</i> (2004), Arnan <i>et al.</i> (2014)
Liliaceae	<i>Clintonia borealis</i> (Aiton) Raf.	H	m/f	Galen <i>et al.</i> (1986)
	<i>Erythronium grandiflorum</i> Pursh	H	m/f	Thomson (1989), Cruzan (1990), Cruzan & Thomson (1997)
Loranthaceae	<i>Tristerix corymbosus</i> (L.) Kuijt	H	m	Harder <i>et al.</i> (2016)
Malvaceae	<i>Hibiscus moscheutos</i> L.	H	m	Snow & Spira (1991)
	<i>Kosteletzky virginica</i> (L.) C. Presl ex A. Gray	GD	m	Ruan <i>et al.</i> (2005)
	<i>Sidalcea hirtipes</i> C.L. Hitchc.	GD	m	Schultz (2003)
Melanthiaceae	<i>Toxicoscordion paniculatum</i> (Nutt.) Rydb.	AM	m	Emms <i>et al.</i> (1997)
	<i>Veratrum nigrum</i> L.	AM	m/f	Liao <i>et al.</i> (2006)
Myrtaceae	<i>Syzygium cumini</i> (L.) Skeels	H	f	Arathi <i>et al.</i> (1996)
Oleaceae	<i>Olea europaea</i> L.	AM	m	Cuevas & Polito (2004)
Onagraceae	<i>Clarkia exilis</i> H. Lewis & Vasek	H	m	Mazer <i>et al.</i> (2007), Mazer <i>et al.</i> (2018)
	<i>Clarkia unguiculata</i> Lindl.	H	m/f	Travers & Holtsford (2000), Mazer <i>et al.</i> (2007), Mazer <i>et al.</i> (2016), Mazer <i>et al.</i> (2018)

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Orchidaceae	<i>Clarkia xantina</i> A.Gray	H	m/f	Runquist <i>et al.</i> (2017)*, Mazer <i>et al.</i> (2016)
	<i>Epilobium canum</i> (Greene) P.H.Raven	H	m	Snow (1986)
	<i>Epilobium angustifolium</i> L.	H	m	Husband (2016)
	<i>Oenothera organensis</i> Munz	H	f	Havens & Delph (1996)*
	<i>Anacamptis morio</i> (L.) R.M.Bateman, Pridgeon & M.W.Chase	H	f	Trunschke <i>et al.</i> (2017)
	<i>Dactylorhiza incarnata</i> (L.) Soó	H	f	Trunschke <i>et al.</i> (2017)
	<i>Dactylorhiza sambucina</i> (L.) Soó	H	f	Trunschke <i>et al.</i> (2017)
	<i>Epipactis palustris</i> (L.) Crantz	H	f	Trunschke <i>et al.</i> (2017)
	<i>Habenaria gourlieana</i> Gillies ex Lindl.	H	m	Moré <i>et al.</i> (2012)
	<i>Habenaria paulistana</i> J.A.N.Bat. & Bianch.	H	m	Moré <i>et al.</i> (2012)
	<i>Neotinea ustulata</i> (L.) R.M.Bateman, Pridgeon & M.W.Chase	H	f	Trunschke <i>et al.</i> (2017)
	<i>Orchis mascula</i> (L.) L.	H	f	Trunschke <i>et al.</i> (2017)
	<i>Orchis militaris</i> L.	H	f	Trunschke <i>et al.</i> (2017)
	<i>Platanthera bifolia</i> (L.) Rich.	H	m/f	Nilsson (1988)
	<i>Platanthera chlorantha</i> (Custer) Rchb.	H	m/f	Nilsson (1988), Trunschke <i>et al.</i> (2017)
Orobanchaceae	<i>Satyrium longicauda</i> Lindl.	H	m	Duffy & Johnson (2014)
	<i>Pedicularis siphonantha</i> D.Don	H	m/f	Yang & Wang (2015)
Oxalidaceae	<i>Oxalis alpina</i> (Rose) Knuth	H	m/f	Baena-Diaz <i>et al.</i> (2017)
Passifloraceae	<i>Passiflora edulis</i> Sims	H	f	Dai & Galloway (2013)
Phrymaceae	<i>Mimulus guttatus</i> DC.	H	f	Aagaard <i>et al.</i> (2013)*
	<i>Mimulus guttatus</i> DC.	H	m	Lamborn <i>et al.</i> (2005)
	<i>Mimulus ringens</i> L.	H	f	Sorin <i>et al.</i> (2016)*

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<b>Pinaceae</b>	<i>Pinus sylvestris</i> L.	M	m	Varis <i>et al.</i> (2008)*
<b>Plantaginaceae</b>	<i>Collinsia heterophylla</i> Graham	H	m/f	Lankinen & Armbruster (2007), Lankinen <i>et al.</i> (2009), Lankinen & Madjidian (2011)*, Madjidian <i>et al.</i> (2012)*, Lankinen <i>et al.</i> (2016)*, Lankinen & Strandh (2016)*, Lankinen <i>et al.</i> (2017), Lankinen & Hydbom (2017)
<b>Poaceae</b>	<i>Zea mays</i> L.	H	m/f	Jones (1928), Mulcahy (1971)*
<b>Polemoniaceae</b>	<i>Ipomopsis aggregata</i> (Pursh) V.E. Grant	H	m/f	Campbell (1989), Campbell & Waser (1989)
	<i>Phlox drummondii</i> Hook.	H	m/f	Schlichting & Devlin (1989)
	<i>Polemonium brandegeei</i> (A. Gray) Greene	H	m	Kulbaba & Worley (2014)
	<i>Polemonium viscosum</i> Nutt.	H	m	Galen & Stanton (1989)
<b>Polygonaceae</b>	<i>Fagopyrum esculentum</i> Moench	H	m	Björkman (1995)
<b>Pontederiaceae</b>	<i>Eichhornia paniculata</i> (Spreng.) Solms	H	f	Cruzan & Barrett (2016)*
<b>Proteaceae</b>	<i>Leucadendron xanthoconus</i> K. Schum.	D	m	Bond & Maze (1999)
<b>Ranunculaceae</b>	<i>Anemone canadensis</i> L.	H	m/f	Douglas & Cruden (1994)
<b>Rosaceae</b>	<i>Malus domestica</i> Borkh.	H	m/f	Kron & Husband (2006)*
	<i>Prunus avium</i> (L.) L.	H	m/f	Hedhly <i>et al.</i> (2016)*
	<i>Prunus avium</i> (L.) L.	H	m/f	Hormoza & Herrero (1996)
	<i>Prunus avium</i> (L.) L.	H	m	Hedhly <i>et al.</i> (2005)
	<i>Pyrus pyrifolia</i> (Burm.f.) Nakai	H	m/f	Zhang <i>et al.</i> (2010)
<b>Rubiaceae</b>	<i>Ixora pudica</i> Baker	H	m/f	Ramesha <i>et al.</i> (2011)
<b>Salicaceae</b>	<i>Populus nigra</i> L.	D	f	Dowkiw <i>et al.</i> (2014)*
	<i>Salix caprea</i> L.	D	m	Dötterl <i>et al.</i> (2014)

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	<i>Salix viminalis</i> L.	D	m/f	Darolti <i>et al.</i> (2018)*
<b>Santalaceae</b>	<i>Santalum album</i> L.	H	m/f	Ramesha <i>et al.</i> (2011)
<b>Sapindaceae</b>	<i>Acer opalus</i> Mill.	AD	m	Gleiser <i>et al.</i> (2008)*
<b>Solanaceae</b>	<i>Lycopersicon cheesmanii</i> L.Riley	H	m/f	Ramesha <i>et al.</i> (2011)
	<i>Petunia hybrida</i> Vilm.	H	m	Mulcahy <i>et al.</i> (1982)
	<i>Datura stramonium</i> L.	H	f	Buchholz & Blakeslee (1930)
<b>Thymelaeaceae</b>	<i>Daphne jezoensis</i> Maxim.	GD	f	Shibata <i>et al.</i> (2018)
<b>Turneraceae</b>	<i>Turnera ulmifolia</i> L.	H	m	McKenna (1986)
<b>Urticaceae</b>	<i>Cecropia schreberiana</i> Miq.	D	m	Forero-Montaña & Zimmerman (2010)
<b>Verbenaceae</b>	<i>Phyla nodiflora</i> (L.) Greene	H	m	Cruzan <i>et al.</i> (1988)
<b>Violaceae</b>	<i>Viola diversifolia</i> (DC.) W.Becker	H	m	Dajoz <i>et al.</i> (1991)
	<i>Viola tricolor</i> L.	H	m/f	Skogsmyr & Lankinen (1999), (2000), Lankinen (2008)
<b>Zingiberaceae</b>	<i>Alpinia mutica</i> Roxb.	H	m/f	Sun <i>et al.</i> (2011)
	<i>Zingiber densissimum</i> S.Q.Tong & Y.M.Xiaq	H	m	Fan <i>et al.</i> (2015)

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