|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tab 2**. The distribution of *Lycium* species and their uses as food and medicine | | | | |
| Species name | Distribution | Food use | Medicine use | Referencesa for plant uses |
| *Lycium acutifolium*E. Mey. ex Dunal | South Africa, Madagascar, Lesotho | Starch of root recommended as famine food for extending bread flour; bark as condiment. | Pounded bark to keep a person in good health | USDA, 1992-2016; Dhar, et al., 2011; Watt & Warmelo, 1930; Lev & Amar, 2006; MPNS,2017 |
| *Lycium afrum* Lycium | South Africa, France, Tunisia, Sweden, Germany, Netherlands, medieval Cairo | Fruit: food | Leaves, fruits, roots for eye diseases, cough | USDA, 1992-2016; PFAF, 2016; Middleditch, 2012; Lev & Amar, 2006; MPNS,2017 |
| *Lycium ameghinoi*Speg. | Argentina | NM (not mentioned) | NM | *-* |
| *Lycium americanum* Jacq. | Bahamas; Cuba; Haiti; Dominican Republic; Islas de Barlovento; Venezuela; Colombia; Costa Rica; Ecuador; Peru; Bolivia; Paraguay; Argentina | fruit as food | NM | Arenas & Scarpa, 2007 |
| *Lycium amoenum* Dammer | South Africa, Namibia | NM | NM | *-* |
| *Lycium anatolicum* A.Baytop & R.R.Mill | Turkey, Armenia | NM | NM | *-* |
| *Lycium andersonii* A. Gray | US, Mexico | Fruit as food | NM | NAEB, 2003; PFAF, 2016; Saunders, 1920; Crosswhite, 1981; Hodgson, 2001; Newton, 2013 |
| *Lycium andersonii* var. *deserticola* (C.Lycium Hitchc.) Jeps. | US, Mexico | NM | NM | *-* |
| *Lycium arenicolum*Miers | South Africa, Lesotho, Botswana, United States | NM | NM | *-* |
| *Lycium athium*Bernardello | Argentina | NM | NM | *-* |
| *Lycium australe* F.Muell. | Australia | Fruit as food | NM | PFAF, 2016; Jeanes, 1999; Clarke, 1998 |
| *Lycium barbarum*Lycium | Widely distributed in Asia, Europe, North America, and Austria; also appears in Africa and South America | Fruit, shoot, leaf as food | Fruit, root, leaf, calyx, bark, and whole plant as medicines for a variety of diseases | USDA, 1992-2016; PFAF, 2016; Lim, 2012; Liu, et al., 2004; Li, et al., 2001; Ali, 1964; ETHMEDmm, 2016; ; Koleva, et al., 2015; Deeb, et al., 2013; MPNS,2017; Quattrocchi, 2012 |
| *Lycium berberioides*Correll | US | NM | NM | *-* |
| *Lycium berlandieri*Dunal | US, Mexico, Germany | Fruit as food | Plant as medicine | FEIS, 2016; PFAF, 2016; Kearney, et al., 1960; Powell, A.M., 1988; Newton, 2013 |
| *Lycium berlandieri*var.*parviflorum*(A. Gray) A. Terracc. | US, Mexico | Fruit as food | Plant as medicine | Hodgson, 2001 |
| *Lycium bosciifolium*Schinz | Namibia, South Africa, Botswana, Angola, Zimbabwe | Leaf as food | NM | Dithi & Perrin, 2006 |
| *Lycium brevipes*Benth. | US, Mexico | NM | NM | *-* |
| *Lycium californicum* A. Gray | US, Mexico, Jamaica | NM | NM | *-* |
| *Lycium carinatum*S. Watson | Mexico, Jamaica | NM | NM | *-* |
| *Lycium carolinianum* Walter | US, Mexico, Cuba, Easter Island, West Indies | fruit as food | NM | PFAF, 2016 |
| *Lycium carolinianum*var.*quadrifidum*(Moc. & Sessé ex Dunal) C.Lycium Hitchc. |  | NM | NM | *-* |
| *Lycium cestroides* Schltdl. | Argentina, Bolivia, Uruguay, Brazil, Australia, Germany, UK | NM | Analgesic | Rondina, et al., 2008; MPNS,2017 |
| *Lycium chanar* Phil. | Argentina, Bolivia, Chile | NM | NM | *-* |
| *Lycium chilense* Bertero | Argentina, Chile, Paraguay, Bolivia, UK, Brazil, Switzerland, Ecuador, France | NM | Fruit as medicine | NPGS, 2016; USDA, 1992-2016 |
| *Lycium chinense* Mill. | Widely distributed in Asia, Europe, North America, and Austria | Fruit, leaf and young shoot as food; seed for coffee; leaf as tea | Fruit, root, leaf, bark, and whole plant as medicines | NPGS, 2016; PFAF, 2016; USDA, 1992-2016; Lim, 2012; ETHMEDmm, 2016; MPNS,2017; Quattrocchi, 2012 |
| *Lycium chinense*var. *potaninii*(Pojark.) A.M.Lu | China | NM | Root bark as medicine | Li et al., 2001 |
| *Lycium ciliatum*Schltdl. | Argentina, Brazil, Bolivia | NM | Leaf as medicine for digestive and stomach inflammations | Trillo, 2010; Toledo, 2014 |
| *Lycium cinereum* Thunb. | South Africa, Botswana, Namibia, Lesotho | Fruit as food | Treat headache and rheumatism; root: anodyne, kidney disease, perfume | Iwu, 2014; Dhar, et al., 2011; Van Damme, 1998; MPNS,2017 |
| *Lycium cooperi*A. Gray | Mexico, US | NM | NM | *-* |
| *Lycium cuneatum*Dammer | Argentina, Paraguay, Bolivia | NM | NM | *-* |
| *Lycium cyathiformum*C.Lycium Hitchc. | Bolivia, Argentina | NM | NM | *-* |
| *Lycium cylindricum* Kuang & A. M. Lu | China | NM | NM | *-* |
| *Lycium dasystemum* Pojark. | China, Iran | Fruit as food | Fruit as medicine | Ali, 1980; Azadi, 2007; Li, et al., 2001; |
| *Lycium decumbens* Welw. ex Hiern | South Africa, Namibia, Angola | NM | NM | *-* |
| *Lycium densifolium*Wiggins | Mexico | NM | NM |  |
| *Lycium depressum*Stocks | Iran, Russia, Israel, Turkmenistan, Iraq, Palestinian Territory, Afghanistan, Turkey, Pakistan, Jordan | NM | Leaf and fruit for kidney problems | Tabaraki, et al., 2013; Ghasemi, et al., 2013 |
| *Lycium deserti*Phil. | Chile | NM | NM | *-* |
| *Lycium dispermum*Wiggins | Mexico | NM | NM | *-* |
| *Lycium distichum*Meyen | Peru, Bolivia, Chile | NM | NM | *-* |
| *Lycium divaricatum* Rusby | Peru, Bolivia | NM | NM | *-* |
| *Lycium edgeworthii*Miers | India, Pakistan, Iran | NM | NM | *-* |
| *Lycium eenii* S. Moore | Namibia | NM | NM | *-* |
| *Lycium elongatum* Miers | Argentina | NM | Leaf for digestive | Toledo, et al., 2010; Trillo, et al., 2014. |
| *Lycium europaeum*Lycium | Spain, France, Israel, Palestinian Territory, Algeria, Portugal, India, Tunisia, Egypt | Fruit and young shoot as food | Fruit, leaf, bark, and whole plant are used for a variety of treatments | PFAF, 2016; Fratkin, 1996; Dafni & Yaniv, 1994; Said et al., 2002; El Hamrouni, 2001; Boullard, 2001; Pieroni, et al., 2002; Al-Quran, 2007; El-Mokasabi, 2014; Turker, 2012; Leporatti, et al., 2009; Licata et al., 2016; MPNS,2017 |
| *Lycium exsertum*A. Gray | US, Mexico | Fruit as food | NM | NAEB, 2003; Hodgson, 2001; Newton, 2013; Nabhan, et al., 1982 |
| *Lycium ferocissimum*Miers | Australia, South Africa, New Zealand, Morocco, Namibia, US, Lesotho, Spain, Norfolk Island, Tunisia | Fruit as food | Plant for detoxication of narcotic poisoning | Watt & Breyer-Brandwijk, 1962; Arnold, et al., 2002; ; MPNS,2017 |
| *Lycium fremontii*A. Gray | US, Mexico | Fruit as food | NM | NAEB, 2003; PFAF, 2016; Watt & Breyer-Brandwijk, 1962; MPNS,2017 |
| *Lycium fuscum* Miers | Argentina | NM | NM | *-* |
| *Lycium gariepense*A.M.Venter | South Africa, Namibia | NM | NM | *-* |
| *Lycium gilliesianum*Miers | Argentina, Chile | NM | NM | *-* |
| *Lycium glomeratum* Sendtn. | Argentina, Paraguay, Bolivia, Brazil, China | NM | NM | *-* |
| *Lycium grandicalyx* Joubert & Venter | South Africa, Namibia | NM | NM | *-* |
| *Lycium hantamense* A.M.Venter | South Africa | NM | NM | *-* |
| *Lycium hassei*Greene | US | NM | NM | *-* |
| *Lycium hirsutum*Dunal | South Africa, Namibia, Botswana | NM | NM | *-* |
| *Lycium horridum*Thunb. | South Africa, Namibia, Madagascar, Botswana, Lesotho, Angola, Iran, Mauritius, Turkey | NM | NM | *-* |
| *Lycium humile*Phil. | Chile, Argentina | NM | NM | *-* |
| *Lycium infaustum* Miers | Argentina, Colombia, Bolivia, Ecuador, Dominican, Turks And Caicos Islands, Jamaica, Peru, Portugal, Paraguay | NM | NM | *-* |
| *Lycium intricatum*Boiss. | Spain, Morocco, Portugal, Mauritania, Algeria, Egypt, Saudi Arabia, Tunisia, Tunisia, Italy | NM | Seed: helminthiasis, digestive; fruit: eye diseases | Abouri, et al., 2012; Ouhaddou, et al,. 2014; Boulila et al., 2015; Abdennacer et al., 2015; MPNS,2017 |
| *Lycium isthmense*F. Chiang | Mexico | NM | NM | *-* |
| *Lycium leiostemum*Wedd. | Chile, Peru, Mexico | NM | NM | *-* |
| *Lycium macrodon* A. Gray | US, Mexico | NM | NM | *-* |
| *Lycium makranicum*Schonebeck-Temesy | Pakistan | NM | NM | *-* |
| *Lycium martii*Sendtn. | Brazil, Cuba | NM | NM | *-* |
| *Lycium mascarenense*A.M. Venter & A.J. Scott | Mauritius, Madagascar, South Africa, Mozambique, Reunion | NM | NM | *-* |
| *Lycium megacarpum*Wiggins | Mexico | NM | NM | *-* |
| *Lycium minimum*C.Lycium Hitchc. | Ecuador | NM | NM | *-* |
| *Lycium minutifolium* Remy | Chile, Argentina, Mauritius | NM | NM | *-* |
| *Lycium morongii*Britton | Argentina, Paraguay, Bolivia | NM | NM | *-* |
| *Lycium nodosum* Miers | Argentina, Mexico, Paraguay, Ecuador, Venezuela, Bolivia, Peru | NM | NM | *-* |
| *Lycium oxycarpum* Dunal | South Africa, Namibia, Angola, US | NM | Used as medicine, no details | Arnold, et al., 2002; MPNS,2017 |
| *Lycium pallidum*Miers | US, Mexico | Fruit as food | Plant and root as medicine, for toothache and chickenpox | NAEB, 2003; FEIS, 2016; PFAF, 2016; Kindscher, et al., 2012; Saunders, 1920; McClendon, 1921; Powell, 1988; Vines, 1960; Hodgson, 2001; Middleditch, 2012; MPNS,2017; Quattrocchi, 2012 |
| *Lycium parishii* A. Gray | US, Mexico | Fruit as food | NM | Nabhan,et al., 1982; Hodgson, 2001 |
| *Lycium parishii*var. *modestum* (I.M. Johnst.) F. Chiang | Mexico | NM | NM | *-* |
| *Lycium petraeum* Feinbrun | Italy, Jordan; *EuroPlusMed PlantBase* | NM | NM | *-* |
| *Lycium pilifolium* C.H. Wright | South Africa, Namibia, Botswana | NM | NM | *-* |
| *Lycium prunus-spinosa* Dunal | South Africa, Namibia | NM | Used as medicine, no details | Arnold, et al., 2002; MPNS,2017 |
| *Lycium puberulum*A. Gray | US, Mexico | NM | NM | *-* |
| *Lycium pubitubum* C.LyciumHitchc. | US, Mexico | NM | NM | *-* |
| *Lycium pumilum* Dammer | South Africa, Namibia | NM | NM | *-* |
| *Lycium rachidocladum* Dunal | Chile | NM | NM | *-* |
| *Lycium repens* Speg. | Argentina, US | NM | NM | *-* |
| *Lycium richii*A. Gray | US, Mexico | Fruit as food | NM | Watson, 1888; Hodgson, 2001 |
| *Lycium ruthenicum*Murray | China, Iran, Afghanistan, India, Mexico, Pakistan, Russian, Turkmenistan, Georgia | Fruit as food | Fruit: ophthalmic, blindness (veterinary); leaf: remove blocked urine; diuretic | USDA, 1996-2016; PFAF, 2016; Ballabh, et al., 2008; Gairola et al., 2014; MPNS,2017 |
| *Lycium sandwicense* A. Gray | Islands across the Pacific (Easter Island, Hawaiian Islands, Ogasawara Islands and Daitou Island) | Fruit as food | NM | PFAF, 2016; Middleditch, 2012 |
| *Lycium schizocalyx* C.H. Wright | South Africa, Botswana, Namibia, Mozambique | NM | NM | *-* |
| *Lycium schreiteri* F.A.Barkley | Argentina | NM | NM | *-* |
| *Lycium schweinfurthii*Dammer | Spain, Israel, Morocco, Greece, Portugal, Algeria, Egypt, Tunisia, Mauritania, Cyprus | NM | Leaf and fruit are used for stomach ulcer | PFAF, 2016; Auda, 2011; Jamous, et al., 2015 |
| *Lycium shawii* Roem. & Schult. | Israel, Palestinian Territory, Saudi Arabia, Ethiopia, Oman, Egypt, Jordan, South Africa, Botswana, Yemen | Fruit and young shoot as food | Leaf, fruit, aerial part, and stem are used for a variety of treatments | Seifu, 2004; Soltan, et al., 2009; Cherouana et al., 2013; Ghazanfar, 1994; Hassan-Abdallah, et al., 2013 ; Trabsa et al., 2015; Chermat et al., 2015; Sher et al., 2011; Gaweesh et al., 2015; Iwu, 2014; MPNS,2017; El-Ghazali, et al., 2010; Molla, 2011; Dahech et al., 2013 |
| *Lycium shockleyi* A. Gray | US, Mexico | NM | NM | *-* |
| *Lycium stenophyllum* J. Rémy | Chile, Peru, Argentina | NM | NM | *-* |
| *Lycium strandveldense* A.M. Venter | South Africa | NM | NM | *-* |
| *Lycium tenuispinosum*S.B. Jones & W.Z. Faust | Argentina, Chile, Paraguay | NM | NM | *-* |
| *Lycium tenuispinosum*var.*friesii*(Dammer) C.H. Hitchc. | Argentina | NM | NM | *-* |
| *Lycium tetrandrum*Thunb. | Namibia, South Africa, Angola | Fruit as food | NM | Watt & Breyer-Brandwijk, 1962; MPNS,2017 |
| *Lycium texanum*Correll | US, Mexico | NM | NM | *-* |
| *Lycium torreyi*A. Gray | US, Mexico | Fruit as food | Whole plant and root as medicine, for chickenpox and toothache | NAEB, 2003; FEIS, 2016; Kearney, et al., 1960; Powell, 1988; Vines, 1960; Hodgson, 2001; MPNS,2017; Quattrocchi, 2012 |
| *Lycium truncatum*Y.C. Wang | China | NM | Root bark as medicine *digupi* | Li, et al., 2001 |
| *Lycium tweedianum*Griseb. | Colombia, Ecuador, Dominican, Tuks And Caicos Islands, Jamaica, Bolivia, Bahamas, Cuba, Paraguay, Virgin Island | Fruit as food | NM | Roth & Lindorf, 2002 |
| *Lycium verrucosum*Eastw. | US | NM | NM | *-* |
| *Lycium villosum*Schinz | South Africa, Namibia, Botswana | NM | NM | *-* |
| *Lycium vimineum* Miers | Argentina, Uruguay | NM | NM | *-* |
| *Lycium yunnanense* Kuang & A.M. Lu | China | NM | NM | *-* |
| a Species distribution and valid plant name information sources are not included, which are extracted from: The plant list(2013); IPNI(2015); GBIF(2017); eFloras (2017); African Plant Database (Conservatory and Botanical Garden of Geneva and South African National Biodiversity Institute, 2017); EuroPlusMed PlantBase (2011); Flora of North America (2009); VicFlora (2015); Flora of Argentina (1992); Flora of Israel(2017); Flora of China(1994). If no sources are given, no references for this species’ food or medicine uses. | | | | |