Malaxis Swartz 1778

mal-AX-iss

As noted from the American Orchid Society, Malaxis is a large genus of terrestrial orchids with variation in vegetative growth. All have minuscule nonresupinate flowers. The genus was first described in 1788 by Olof Peter Swartz, who selected the Greek word malaxis (softening) as the generic name. He was probably referring to the soft succulent leaves found on some species, or possibly to the fact that some leaves instead of drying out at the end of their lives turn light tan, become soft and collapse as noted in Malaxis *latifolia*. In the journal article, *Malaxidinae index nominum – Seidenfia Szlach. (Orchidacease*) authored by H. B. Margoriska, there is reference that Malaxis was revised in 1889.

Some Malaxis species have wide distribution ranges. For example, Malaxis *unifolia* is found from eastern Canada southward through the central and eastern United States and into the Caribbean. Another example of a Malaxis species with a wide distribution range is Malaxis *monophyllos,* which ranges throughout the temperate Northern Hemisphere to the Philippines. While some Malaxis species have a wide distribution range, other Malaxis species are endemic to a small area, such as a single island. Two examples of a Malaxis with a small distribution area is Malaxis *rhabdophylla*, which is found on the island of New Guinea and Malaxis *aurata* found only on the island of Borneo.



Range of Malaxis. Green colored areas native found. Red colored areas are now extinct.

Native to:

Alabama, Alaska, Alberta, Aleutian Island, Altay, Amur, Angola, Argentina Northeast, Argentina Northwest, Arizona, Arkansas, Austria, Bahamas, Baltic States, Belarus, Belize, Bolivia, Brazil, British Columbia, Burundi, Buryatia, Cameroon, Central African Republic, Chad, China, Chita, Colombia, Colorado, Comoros, Connecticut, Costa Rica, Cuba, Czechoslovakia, Delaware, District of Colombia, Dominican Republic, Himalaya, Ecuador, El Salvador, Ethiopia, Finland, Florida, France, French Guiana, Gabon, Georgia, Ghana, Guatemala, Guinea, Gulf of Guinea Island, Guyana, Haiti, Honduras, Illinois, India, Indiana, Mongolia, Iowa, Irkutsk, Italy, Ivory Coast, Jamaica, Japan, Kamchatka, Kansas, Kentucky, Kenya, Khabarovsk, Korea, Krasnoyarsk, Kuril Island, Labrador, Leeward Islands, Liberia, Louisiana, Madagascar, Maine, Malawi, Maluku, Manchuria, Manitoba, Maryland, Massachusetts, Mexico, Michigan, Minnesota, Mississippi, Missouri, Mongolia, Mozambique, Myanmar, Nepal, New Brunswick, New Hampshire, New Jersey, New Mexico, New York, Newfoundland, Nicaragua, Nigeria, North Carolina, Russia, Northwest Territories, Norway, Nova Scotia, Ohio, Oklahoma, Ontario, Pakistan, Panamá, Paraguay, Pennsylvania, Peru, Philippines, Poland, Primorsky Krai, Prince Edward Island, Puerto Rico, Qinghai, Québec, Rhode Island, Romania, Rwanda, Sakhalin, Saskatchewan, Senegal, Seychelles, Sierra Leone, South Carolina, Sri Lanka, Sudan, Sulawesi, Suriname, Sweden, Switzerland, Taiwan, Tanzania, Tennessee, Texas, Tibet, Togo, Trinidad-Tobago, Tuva, Uganda, Ukraine, Uruguay, Vanuatu, Venezuela, Vermont, Vietnam, Virginia, Siberia, West Virginia, Windward Islands, Wisconsin, Yakutskaya, Yugoslavia, Yukon, Zambia, Zaïre, and Zimbabwe.

Extinct in: California, and Hungary.

Malaxis, a sympodial plant, varies greatly vegetatively. Some species of Malaxis are miniatures less than 15 centimeters (6 inches) tall. Other Malaxis species have pseudobulbs up to 15 centimeters (6 inches) tall. Inflorescences are variable from Malaxis species to species. Some Malaxis species inflorescences are densely covered with small flowers. Rarely are the flowers over a few millimeters in diameter. Most Malaxis flowers base colors are in hues of greens and creams; however, a few have base colors hues in the pink or purplish pink color range.

Flowers of Malaxis species are most often only 5 millimeters (0.25 inches) across. Malaxis species flowers vary from species to species with the greatest variation seen in the lip. Malaxis sepals and petals are comparable in color and length but differ in width. The floral segments may be flat, reflexed or somewhat twisted. The lips may have midlobes either larger or smaller than the side lobes with or without auricles. The margin of the lip may be entire or toothed. Some lips are broadly trilobed, bilobed, or bifid, divided into two equal lobes or parts.

As of August 2007, the World Monocot Checklist recognized 410 species and numerous named varietal forms.

In the book, *Flora of China*, the following information was shared. Malaxis are considered herbs, terrestrial, rarely epiphytic, and occasionally holomycotrophic. Holomycotrophic is a plant that is a mycotroph as its sole method of nutrition, without chlorophyll and hence not green; an obligate mycotroph. A mycotroph is a plant that gets all or part of its carbon, water, or nutrient supply through symbiotic association with fungi. The term can refer to plants that engage in either of two distinct symbioses with fungi: Many mycotrophs have a mutualistic association with fungi in any of several forms of mycorrhiza.

Malaxis have hairy roots. Stems are cylindric to pseudobulbous, fleshy, often creeping and rooting in basal part. When leaves are present, they are thinly textured to fleshy, usually plicate, petiole sheathing at base. Inflorescences are known to be erect, racemose, unbranched, floral bracts persistent, lanceolate, or setose. Flowers may be resupinate and in hues of green, brown, yellow, pink, or purple. Dorsal sepal spreading, free; lateral sepals free or fused, spreading. Petals often narrower than sepals, free, spreading; lip erect, flat but sometimes concave at base, entire to lobed, auriculate at base or lacking auricles, apical margin entire or toothed, lacking a spur, callus absent or present and cushion like or obscurely transversely ridged. Column lacking a foot; anther cap dorsal, attached by a slender filament, locules opening ventrally; pollinia 4, waxy, lacking appendages or rarely with 1 or 2 tiny viscidia; stigma semicircular or ovate; rostellum often obtuse or emarginate at apex.

Kew reports Heterotypic Synonyms:

Achroanthes Raf. in Amer. Monthly Mag. & Crit. Rev. 4: 195 (1819), nom. rej.

Acroanthes Raf. in J. Phys. Chim. Hist. Nat. Arts 89: 261 (1819), orth. var.

Cheiropterocephalus Barb.Rodr. in Gen. Spec. Orchid. 1: 28 (1877)

Kornasia Szlach. in Fragm. Florist. Geobot., Suppl. 3: 120 (1995)

Lisowskia Szlach. in Fragm. Florist. Geobot., Suppl. 3: 121 (1995)

Microstylis (Nutt.) Eaton in Man. Bot., ed. 3: 115 (1822), nom. cons

Pycnantha Ravenna in Onira 12: 30 (2011)

Kew reports Accepted Species:

Malaxis abieticola Salazar & Soto Arenas

Malaxis acianthoides (Schltr.) Ames

Malaxis adenotropa R. González, Lizb.Hern. & E. Ramírez

Malaxis adolphii (Schltr.) Ames

Malaxis alvaroi García-Cruz, R. Jiménez & L. Sánchez

Malaxis andersoniana R. González

Malaxis andicola (Ridl.) Kuntze

Malaxis apiculata Dod

Malaxis atrorubra (H. Perrier) Summerh.

Malaxis aurea Ames

Malaxis auriculata P. O’Byrne & J.J. Verm.

Malaxis bayardii Fernald

Malaxis boliviana (Schltr.) Ames

Malaxis brachyrrhynchos (Rchb.f.) Ames

Malaxis brachystachys (Rchb.f.) Kuntze

Malaxis brevis Dressler

Malaxis buchtienii (Schltr.) Christenson

Malaxis bulusanensis Ames

Malaxis cardiophylla (Rchb.f.) Kuntze

Malaxis carlos-parrae Szlach. & Kolan.

Malaxis carnosa (Kunth) C. Schweinf.

Malaxis casillasii R. González

Malaxis chevalieri Summerh.

Malaxis chiarae R. González, Lizb.Hern. & E. Ramírez

Malaxis chica Todzia

Malaxis cipoensis F. Barros

Malaxis cobanensis Archila, Szlach. & Chiron

Malaxis cogniauxiana (Schltr.) Pabst

Malaxis contrerasii R. González

Malaxis cordilabia Portalet

Malaxis crispata (Lindl.) Ames

Malaxis crispifolia (Rchb.f.) Kuntze

Malaxis cumbensis Dodson

Malaxis densiflora (A. Rich.) Kuntze

Malaxis discolor (Lindl.) Kuntze

Malaxis dodii Acev. -Rodr. & Ackerman

Malaxis dolpensis M.R. Shrestha, L.R. Shakya & Ghimire

Malaxis domingensis Ames

Malaxis elliptica A. Rich. & Galeotti

Malaxis elviae R. González

Malaxis espejoi R. González, Lizb.Hern. & E. Ramírez

Malaxis excavata (Lindl.) Kuntze

Malaxis excentrica Chinchilla, Karremans & M.A. Blanco

Malaxis fastigiata (Rchb.f.) Kuntze

Malaxis greenwoodiana Salazar & Soto Arenas

Malaxis hagsateri Salazar

Malaxis hieronymi (Cogn.) L.O. Williams

Malaxis hispaniolae (Schltr.) L.O. Williams

Malaxis histionantha (Link) Garay & Dunst.

Malaxis hoppii (Schltr.) Løjtnant

Malaxis insperata Dressler

Malaxis intermedia (A. Rich.) Seidenf.

Malaxis irmae Radins & Salazar

Malaxis iwashinae T. Yukawa & T. Hashim.

Malaxis jaraguae (Hoehne & Schltr.) Pabst

Malaxis javesiae (Rchb.f.) Ames

Malaxis johniana (Schltr.) Foldats

Malaxis juventudensis Marg.

Malaxis katangensis Summerh.

Malaxis labrosa (Rchb.f.) Acuña

Malaxis lagotis (Rchb.f.) Kuntze

Malaxis leonardii Ames

Malaxis lepanthiflora (Schltr.) Ames

Malaxis lepidota (Finet) Ames

Malaxis licatae Carnevali & I. Ramírez

Malaxis lizbethiae R. González, Lizb.Hern. & E. Ramírez

Malaxis lobulata L.O. Williams

Malaxis longipedunculata Ames

Malaxis luceroana R. González

Malaxis lyonnetii Salazar

Malaxis maclaudii (Finet) Summerh.

Malaxis macrostachya (Lex.) Kuntze

Malaxis macvaughiana R. González, Lizb.Hern. & E. Ramírez

Malaxis maguirei C. Schweinf.

Malaxis maianthemifolia Schltdl. & Cham.

Malaxis major (Rchb.f.) León ex A.D. Hawkes

Malaxis malipoensis Y.F. Meng, A.Q. Hu & F.W. Xing

Malaxis mandonii (Rchb.f.) Marg.

Malaxis marthaleidae R. González, Lizb.Hern. & E. Ramírez

Malaxis martinezii R. González

Malaxis massonii (Ridl.) Kuntze

Malaxis maxonii Ames

Malaxis medinae Carnevali & Nog. -Sav.

Malaxis melanotoessa Summerh.

Malaxis micheliana R. González, Lizb.Hern. & E. Ramírez

Malaxis mixta (Schltr.) R. Vásquez

Malaxis molotensis Salazar & de Santiago

Malaxis monophyllos (L.) Sw.

Malaxis monsviridis Dressler

Malaxis moritzii (Ridl.) Kuntze

Malaxis mucronulata (Schltr.) P. Ortiz

Malaxis muscifera (Lindl.) Kuntze

Malaxis myurus (Lindl.) Kuntze

Malaxis nana C. Schweinf.

Malaxis nelsonii Ames

Malaxis nidiae Carnevali & I. Ramírez

Malaxis novogaliciana R. González ex McVaugh

Malaxis ochreata (S. Watson) Ames

Malaxis oroensis Tobar & Salazar

Malaxis pabstii (Schltr.) Pabst

Malaxis padilliana L.O. Williams

Malaxis panamensis Kolan.

Malaxis pandurata (Schltr.) Ames

Malaxis parthoni C. Morren

Malaxis perezii R. González

Malaxis physuroides (Schltr.) Summerh.

Malaxis pittieri (Schltr.) Ames

Malaxis pringlei (S. Watson) Ames

Malaxis prorepens (Kraenzl.) Summerh.

Malaxis pubescens (Lindl.) Kuntze

Malaxis pusilla Ames & C. Schweinf.

Malaxis quadrata L.O. Williams

Malaxis reichenbachiana (Schltr.) L.O. Williams

Malaxis rheedeana J.M.H. Shaw

Malaxis ribana Espejo & López-Ferr.

Malaxis risaraldana Szlach. & Kolan.

Malaxis roblesgiliana R. González

Malaxis rodrigueziana R. González

Malaxis rosei Ames

Malaxis rosilloi R. González & E.W. Greenw.

Malaxis rositae R. González, Lizb.Hern. & E. Ramírez

Malaxis rostratula Dressler

Malaxis ruizii R. González

Malaxis rupestris (Poepp. & Endl.) Kuntze

Malaxis rzedowskiana R. González

Malaxis schliebenii (Mansf.) Summerh.

Malaxis schneideri (Szlach. & Kolan.) J.M.H. Shaw

Malaxis seramica (J.J.Sm.) S. Thomas, Schuit. & de Vogel

Malaxis seychellarum (Kraenzl.) Summerh.

Malaxis sibundoyensis Kolan., Medina Tr. & Szlach.

Malaxis simillima (Rchb.f.) Kuntze

Malaxis sneidernii (Garay) P. Ortiz

Malaxis sodiroi (Schltr.) Dodson

Malaxis spicata Sw.

Malaxis steyermarkii Correll

Malaxis streptopetala (B.L. Rob. & Greenm.) Ames

Malaxis subtilis Aver.

Malaxis sulamadahensis (J.J.Sm.) S. Thomas, Schuit. & de Vogel

Malaxis talamancana Dressler

Malaxis talaudensis (J.J.Sm.) S. Thomas, Schuit. & de Vogel

Malaxis tamayoana Garay & W. Kittr.

Malaxis tamurensis Tuyama

Malaxis tepicana Ames

Malaxis tequilensis R. González, Lizb.Hern. & E. Ramírez

Malaxis termensis (Kraenzl.) C.Schweinf.

Malaxis thienii Dodson

Malaxis thwaitesii Bennet

Malaxis tonduzii (Schltr.) Ames

Malaxis triangularis Dressler

Malaxis tridentula (Schltr.) Christenson

Malaxis trigonopetala (J.J.Sm.) S. Thomas, Schuit. & de Vogel

Malaxis umbelliflora Sw.

Malaxis unifolia Michx.

Malaxis urbana E.W. Greenw.

Malaxis ventilabrum (Rchb.f.) Kuntze

Malaxis ventricosa (Poepp. & Endl.) Kuntze

Malaxis warmingii (Rchb.f.) Kuntze

Malaxis weberbaueriana (Kraenzl.) Summerh.

Malaxis weddellii (Finet) R. Vásquez

Malaxis welwitschii (Rchb.f.) Hermans

Malaxis wercklei (Schltr.) Ames

Malaxis woodsonii L.O. Williams

Malaxis xerophila Salazar & L.I. Cabrera

Malaxis yanganensis Dodson

Malaxis zempoalensis López-Ferr. & Espejo

Szlachetko and Margońska recognized a number of new genera in subtribe Malaxideae, i.e., Crepidium, Dienia, and Oberonioides. Most of these were included in Malaxis by previous taxonomists. Data from DNA sequence analysis shows that Malaxis is polyphyletic (derived from more than one common evolutionary ancestor or ancestral group and therefore not suitable for placing in the same taxon), but not along the lines defined by Szlachetko and his co-workers. Some of the segregated genera have been accepted by Pridgeon et al. in *Genera Orchidacearum* (2005) 4(1): 453-486., based on morphological and preliminary molecular data.

All American Orchid Society awards for Malaxis have been CBR, a Certificate of Botanical Recognition, awarded to a cultivar of a species or natural hybrid deemed worthy of recognition for rarity, novelty, and educational value. Only four Malaxis have received an American Orchid Society award: Malaxis *unifolia*, Malaxis *excavata*, Malaxis *quadrata*, and Malaxis *umbelliflora*. OrchidWiz presents Malaxis as having twelve American Orchid Society awards; however, eight of the Malaxis species noted to have received an award are synonyms. Malaxis *unifolia* is synonymous with Mal. *amplexicolumna*, Mal. *grisebachiana*, Mal. *ophioglossoides*, and Mal. *Thlaspiformis;* noted within chart below in light blue. Malaxis excavata is synonymous with Mal. *caracasana*, Mal. *hastilabia*, Mal. *sertulifera*, and Mal. *Uncinate;* noted within chart below in light green. Malaxis *umbelliflora* is synonymous with Mal. *umbellulate;* noted within chart below in light yellow.

**Malaxis Species Awards**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | FCC | AM | HCC | AQ | JC | CCM | CCE | CHM | CBM | CBR | TOTAL |
| *amplexicolumna, unifolia* | - | - | - | - | - | - | - | - | - | 1 | 1 |
| *caracasana, excavata* | - | - | - | - | - | - | - | - | - | 2 | 2 |
| *grisebachiana, unifolia* | - | - | - | - | - | - | - | - | - | 1 | 1 |
| *hastilabia, excavata* | - | - | - | - | - | - | - | - | - | 2 | 2 |
| *ophioglossoides, unifolia* | - | - | - | - | - | - | - | - | - | 1 | 1 |
| *quadrata* | - | - | - | - | - | - | - | - | - | 1 | 1 |
| *sertulifera, excavata* | - | - | - | - | - | - | - | - | - | 2 | 2 |
| *thlaspiformis, unifolia* | - | - | - | - | - | - | - | - | - | 1 | 1 |
| *umbelliflora* | - | - | - | - | - | - | - | - | - | 1 | 1 |
| *umbellulate, umbelliflora* | - | - | - | - | - | - | - | - | - | 1 | 1 |
| *uncinata, excavata* | - | - | - | - | - | - | - | - | - | 1 | 1 |
| *unifolia* | - | - | - | - | - | - | - | - | - | 1 | 1 |

**Dates and Locations of Malaxis Species Awarded**

|  |  |  |
| --- | --- | --- |
| Clone | Date | Location |
| Malaxis *unifolia* ‘Riverside’ | 1982 | Coastal Carolina Orchid Society Show |
| Malaxis *excavata* ‘Leon’ | 1988 | Northeast Regional Monthly Judging Center |
| Malaxis *excavata* ‘Leon’ | 1996 | Northeast Regional Supplemental Judging |
| Malaxis *quadrata* “Queen Ann’s Cup’ | 1994 | Northeast Regional Monthly Judging Center |
| Malaxis *umbelliflora* ‘MAJ’ | 1988 | Sarasota Orchid Society Show |

Close-up of a plant with green leaves

Description automatically generated

Malaxis *excavata*

Photography by Marcos Aurelio da Silva



Malaxis *umbelliflora*

Photography of lithograph by unknown, Source Wikipedia

A close-up of a plant

Description automatically generated

Malaxis *quadrata*

Photography by Jose Portilla



Malaxis *unifolia*

*Photography by unknown, Source Go Botany*

From data review in OrchidWiz, there are no registered hybrids of the genus Malaxis.

When reviewing data in OrchidWiz, there are a number of Malaxis species which have been recognized as a different genus. These genera include Crepidium, Liparis, Oberonia, Tamayorkis, Earina, Dienia, and Crossoglossa. It appears there is a need for a revision of the genus Malaxis.

Malaxis Cultural Information

|  |  |
| --- | --- |
| **Temperature:** | Some withstand freezing but provide 60-65 degrees F (15-18 C) minimum night temperature for tropical species. |
| **Light:** | 2400-3600 footcandles |
| **Water-Humidity:** | 40-60% humidity. If the species has a dormant period, the plant should be kept moist while in growth and much drier after the plant loses its leaves. If the species does not lose its leaves, it should not become very dry. |
| **Fertilizer:** | Monthly, use 1-1-1 ratio or any balanced fertilizer. |
| **Potting:** | Any good terrestrial mix. |
| **References:** | Sheehan, Tom, and Marion; Orchid Genera Illustrated, a series started in 1967 and concluded in January 1999, published in the AOS Bulletin and Orchids; used with permission of the author. |
| **Author:** | Tom Sheehan – 8/2007 |

Depending on the species of Malaxis and the habitat location, species of Malaxis can be found in bloom year-round.

From data showing the type of American Orchid Society awards Malaxis species have received, American Orchid Society Judges have only awarded members of the Malaxis genus horticultural awards, not quality awards. Considering a Malaxis species for a quality award, I would use the general scale.

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