

Monstera Adans.

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This treatment is composed of the following taxa: *Monstera*, *Monstera adansonii*, *Monstera aureopinnata*, *Monstera deliciosa*, *Monstera dissecta*, *Monstera dubia*, *Monstera lechleriana*, *Monstera obliqua*, *Monstera praetermissa*, *Monstera spruceana*, *Monstera subpinnata*.

HOW TO CITE

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Has as synonym

heterotypic *Serangium* Wood ex Salisb.

heterotypic *Tornelia* Gut. ex Schott

DESCRIPTION

Laticifers absent and large, solitary, scattered trichosclereids abundant throughout the plant. Evergreen climbing herbaceous hemiepiphytes. Leaves distichous, juvenile leaves sometimes of shingle plant form, rarely variegated. Petiole geniculate apically, sheath usually long, persistent or decomposing to fibrous or membranous mass or entirely deciduous. Leaf blade entire, oblique, oblong to ovate-elliptic, often conspicuously and elaborately perforated, more rarely deeply pinnatifid; primary lateral veins pinnate, running into marginal vein, rarely forming an irregular submarginal collective vein (*M. obliqua*), secondary laterals often parallel-pinnate, sometimes reticulated (e.g. *M. dubia*), higher order venation reticulate. Inflorescences 1–several in each floral sympodium, peduncle shorter than petiole. Spathe ovate or oblong-ovate, cuspidate, erect, boat-shaped and somewhat convolute basally, white to rose-coloured within, usually remaining open after anthesis, caducous after anthesis. Spadix sessile, subcylindric, somewhat shorter than spathe, usually white, cream or sometimes yellow. Flowers bisexual, perigone absent, lowermost flowers usually sterile. Stamens 4, free, filaments flattened, connective slender, thecae oblong-ellipsoid, dehiscing by longitudinal slit not reaching base. Gynoecium obovoid to ellipsoid, prismatic, ovary 2-locular, ovules 2 per locule, anatropous, funicle short, placenta axile at base of septum. Styler region often massive, broader than ovary and usually containing abundant trichosclereids, apex truncate to acute or attenuate, stigma oblong, elliptic, linear or rounded. Berries white, cream, green, yellow orange or red, 1–3-seeded, usually shedding prismatic styler region at maturity, pulpy within. Seed obovoid to ellipsoid, compressed, testa smooth, embryo large, endosperm absent.

Life Form

Herb, Liana/scandent/vine

Substrate

Epiphytic, Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest, Caatinga, Central Brazilian Savanna, Atlantic Rainforest

Vegetation Types

Anthropic area, Cerrado (lato sensu), Inundated Forest (Igapó), Terra Firme Forest, Inundated Forest (Várzea), Seasonally Semideciduous Forest, Ombrophyllous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Amapá, Pará, Rondônia, Roraima, Tocantins)

Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Sergipe)

Central-west (Distrito Federal, Goiás, Mato Grosso)

Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo)

South (Paraná, Rio Grande do Sul, Santa Catarina)

IDENTIFICATION KEY

- | | |
|--|---------------------|
| 1. Leaf blade margin regularly pinnatifid (rarely on one side only) | 2 |
| 1'. Leaf blade margin entire, or irregularly pinnatifid | 6 |
| 2. Leaf blade without perforations | 3 |
| 2'. Leaf blade with perforations | <i>dubia</i> |
| 3. Peduncle equalling or shorter than spadix | 4 |
| 3'. Peduncle longer than spadix | <i>dissecta</i> |
| 4. Styler region of gynoecium truncate, flowering spadix 12-25 cm long, | <i>spruceana</i> |
| 4'. Styler region of gynoecium acute to acuminate, flowering spadix 8-16 cm long | 5 |
| 5. Leaf pinnae distinctly narrowed at base, petiole sheath completely deciduous, leaf blade 20-50 cm long, leaf pinnae 3-12 | <i>subpinnata</i> |
| 5'. Leaf pinnae not distinctly narrowed at base, petiole sheath persistent and entire, leaf blade 40-60 cm long, leaf pinnae 3-6 | <i>aureopinnata</i> |
| 6. Leaf blade with perforations | 7 |
| 6'. Leaf blade entire, without perforations | 13 |
| 7. Spathe yellow to orange, flowering spadix up to 7 cm long, internodes usually less than 11 mm thick, mature berries orange | 8 |
| 7'. Spathe white, cream or salmon-pink, flowering spadix usually more than 7 cm long, internodes usually more than 10 mm thick, mature berries not orange | 9 |
| 8. Inflorescences usually 4 or more per floral sympodium, trichosclereids absent in styler region of gynoecium | <i>obliqua</i> |
| 8'. Inflorescences up to 4 per floral sympodium, trichosclereids present in styler region of gynoecium | <i>praetermissa</i> |
| 9. Juvenile leaves with "shingle" habit (flattened against tree trunk with very short petioles), petiole sheath completely deciduous, tertiary veins of leaf blade distinctly reticulate, peduncle shorter than spadix, flowering spathe salmon-pink | <i>dubia</i> |
| 9'. Juvenile leaves exserted (held away from substrate with petioles similar in length to blade), petiole sheath persistent and entire, tertiary veins of leaf blade mostly clearly parallel to secondaries, peduncle equalling or longer than spadix, flowering spathe cream or white | 10 |
| 10. Leaf blade usually less than 80 cm long, petiole usually less than 65 cm long, flowering spadix less than 14 cm long, fruiting spadix less than 17 cm long | 11 |
| 10'. Leaf blade usually more than 70 cm long, petiole usually more than 55 cm long, Flowering spadix more than 12 cm long, fruiting spadix more than 20 cm long | <i>lechleriana</i> |
| 11. Leaf blade usually ovate, leaf base strongly asymmetric and rounded to truncate at least on one side, styler region of gynoecium truncate, stigma linear, 1.8 - 2.8 mm long | 12 |

11'. Leaf blade usually oblong to elliptic leaf base only weakly asymmetric and acute on both sides, stylar region of gynoecium prominent and weakly to strongly conic, stigma elliptic, 1.0 - 1.8 mm long (total number of leaf perforations in mature leaf usually less than 9)
adansonii subsp. *klotzschiana*

12. Total number of leaf perforations in mature leaf usually more than 17, blade often irregularly lacinate due to some larger perforations breaking through margin, leaf blade more-or-less coriaceous, spathe cream adaxially
adansonii subsp. *blanchetii*

12'. Total number of leaf perforations in mature leaf usually less than 12, blade margin usually entire, leaf blade membranaceous, spathe white adaxially
adansonii subsp. *laniata*

13. Inflorescences usually 4 or more per floral sympodium, trichosclereids absent in stylar region of gynoecium
obliqua

13'. Inflorescences usually solitary or at least less than 4 per floral sympodium, trichosclereids present in stylar region of gynoecium
14

14. Juvenile leaves with "shingle" habit (flattened against tree trunk with very short petioles), petiole sheath completely deciduous, tertiary veins of leaf blade distinctly reticulate, peduncle shorter than spadix, flowering spathe salmon-pink
dubia

14'. Juvenile leaves exerted (held away from substrate with petioles similar in length to blade), petiole sheath persistent and entire, tertiary veins of leaf blade mostly clearly parallel to secondaries, peduncle equalling or longer than spadix,
15

15. Leaf blade usually less than 80 cm long, petiole usually less than 65 cm long, flowering spadix less than 14 cm long, fruiting spadix less than 17 cm long
16

15'. Leaf blade usually more than 70 cm long, petiole usually more than 55 cm long, Flowering spadix more than 12 cm long, fruiting spadix more than 20 cm long
lechleriana

16. Leaf blade usually ovate, membranaceous, leaf base strongly asymmetric and rounded to truncate at least on one side, stylar region of gynoecium truncate, stigma linear
adansonii subsp. *laniata*

16'. Leaf blade usually oblong to elliptic, coriaceous, leaf base only weakly asymmetric and acute on both sides, stylar region of gynoecium prominent and weakly to strongly conic, stigma elliptic
adansonii subsp. *klotzschiana*

REFERENCE

- Andrade, I.M. & Mayo, S.J. (1998). Dynamic shoot morphology in *Monstera adansonii* Schott var. *klotzschiana* (Schott) Madison (Araceae). *Kew Bulletin* 53(2): 399-417.
- Andrade, I.M., Mayo, S.J., Van den Berg, C., Fay, M.F., Chester, M., Lexer, C., Kirkup, D. (2007). A preliminary study of genetic variation in populations of *Monstera adansonii* var. *klotzschiana* (Araceae) from north-east Brazil, estimated with AFLP molecular markers. *Annals of Botany* 100: 1143-1154.
- Andrade, I.M., Mayo, S.J., Kirkup, D., Van den Berg, C. (2008). Comparative morphology of populations of *Monstera* Schott (Araceae) from natural forest fragments in Northeast Brazil using elliptic Fourier Analysis of leaf outlines. *Kew Bulletin* 63: 193 – 211.
- Andrade, I.M. et al. (2013). The Araceae in Ceará, Brazil: humid forest plants in a semi-arid region. *Rodriguésia* 64(3): 460-463.
- Gonçalves, E.G., & Temponi, L.G. (2004). A new *Monstera* (Araceae: Monsteroideae) from Brazil. *Brittonia* 56: 72-74.
- Madison, M.T. (1977). A revision of *Monstera* (Araceae). *Contrib. Gray Herbarium Harvard Univ.* 207: 1-100.
- Mayo, S.J., Andrade, I.M. (2014). A morphometric and taxonomic study of *Monstera* (Araceae) in Bahia, Brazil. *Feddes Repertorium* (2013) 124: 1-24.
- Mayo, S.J., Bogner, J., Boyce, P.C. (1997). The Genera of Araceae, Royal Botanic Gardens Kew, Richmond, p. 123-125.
- Pereira, S.F. (2015). Lemnoideae e Monsteroideae do Paraná e um guia de identificação para as espécies de Araceae no Estado. *Dissertação de Mestrado, Universidade Federal do Paraná, Curitiba*, pp. 48-49, 112-115.

Monstera adansonii Schott

This treatment is composed of the following taxa: *Monstera adansonii*, *Monstera adansonii* subsp. *blanchetii*, *Monstera adansonii* subsp. *klotzschiana*, *Monstera adansonii* subsp. *laniata*.

Has as synonym

homotype *Dracontium pertusum* L.
 homotype *Monstera pertusa* (L.) de Vriese
 heterotypic *Calla dracontium* G.Mey.
 heterotypic *Calla pertusa* (L.) Kunth
 heterotypic *Monstera pertusa* var. *jacquinii* (Roxb.) Schott
 heterotypic *Philodendron pertusum* (L.) K.Koch & C.D.Bouché

DESCRIPTION

Leaf: juvenile leaf patent; **petiole sheath** persistent entire; **blade division** perforate/entire; **leaf tertiary veins** parallel to secondary veins; **pinna base** absent character; **pinna division** absent character. **Inflorescence:** **spathe adaxial colour** cream/pale yellow/white; **peduncle length** more or less equal to spadix/longer than spadix. **Flower:** **stylar region apex shape** truncate/prominent obtusely conical; **stigma shape** elliptic/linear. **Fruit:** **berry colour** white.

Life Form

Herb, Liana/scandent/vine

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest, Caatinga, Central Brazilian Savanna, Atlantic Rainforest

Vegetation Types

Anthropic area, Seasonally Semideciduous Forest, Ombrophyllous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Amapá, Pará, Roraima)
 Northeast (Alagoas, Bahia, Ceará, Paraíba, Pernambuco, Sergipe)
 Central-west (Mato Grosso)
 Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo)
 South (Paraná, Rio Grande do Sul, Santa Catarina)

IDENTIFICATION KEY

1. Leaf blade usually ovate, leaf base strongly asymmetric and rounded to truncate at least on one side, stylar region of gynoecium truncate, stigma linear, 1.8 - 2.8 mm long 2
 1'. Leaf blade usually oblong to elliptic, leaf base only weakly asymmetric and acute on both sides, stylar region of gynoecium prominent and weakly to strongly conic, stigma elliptic, 1.0 - 1.8 mm long (total number of leaf perforations in mature leaf usually less than 9) *adansonii* subsp. *klotzschiana*
2. Total number of leaf perforations in mature leaf usually more than 17, blade often irregularly lacinate due to some larger perforations breaking through margin, leaf blade more-or-less coriaceous, spathe cream adaxially *adansonii* subsp. *blanchetii*
 2'. Total number of leaf perforations in mature leaf usually less than 12, blade margin usually entire, leaf blade membranaceous, spathe white adaxially *adansonii* subsp. *laniata*

HERBARIUM MATERIAL

C.M. Mynssen, 410, RB, 391396,  (RB00472392), Rio de Janeiro
R.T. Valadares, 1043, RB, 589936,  (RB00825736), Espírito Santo
M. Nadruz, 1154, RB, 323274,  (RB00472294), Rio de Janeiro
M. Nadruz, 893, RB, 301365,  (RB00472300)

REFERENCE

Madison M.T. 1977. A revision of *Monstera* (Araceae). Contributions from the Gray Herbarium of Harvard University 207: 1-100.

Monstera adansonii subsp. *blanchetii* (Schott) Mayo & I.M.Andrade

Has as synonym

homotype *Monstera blanchetii* Schott

heterotypic *Monstera maximilianii* Engl.

DESCRIPTION

Hemi-epiphyte, root climber with distichous leaves. **Stem.** Juvenile plant: internodes 2–4.5 cm long, ellipsoid in cross section, dull to lustrous dark to mid green with numerous tiny white dots or short striae which are hardly visible in very juvenile plants; anchor roots in patches just below nodes. Adult plant: internodes 1–3 × 1–3.5 cm, ellipsoid to subcircular in cross section, dull darkish green with white dots or short striae, leaf scars straw-coloured; anchor roots emerging all along internode on side appressed to host trunk, ca. 0.15 cm diam., wiry, blackish-brown, feeder roots solitary at nodes, up to 0.55 cm diam. **Petiole.** Juvenile plant: 5–10.5 cm long (including geniculum) when blade entire, to ca. 19 cm long when blade perforated, similar in colour and markings to internodes; sheath margins erect. Adult plant: 30–64 cm long (including geniculum), similar in colour and markings to internodes, distinctly paler than blade and ± straw-coloured when dried, free petiole sulcate with angled margins, distinct basal geniculum present, apical geniculum 3–4 cm long, 1.2–1.3 cm deep, sulcate with angled margins; sheath reaching geniculum or just below, apex obtuse to rounded, auriculate or not, margins erect, one side broader than the other, entire, remaining green, quite often the extreme margin withers or becomes somewhat darker. **Leaf blade.** Juvenile plant: in smaller shoots 3.5–15 × 1.8–6.5 cm, broadly to narrowly ovate, unequal, often falcate, apex narrowly acuteacuminate, base rounded to subcordate on wider side, acute to subacute on narrower side, non-perforate or with up to 6 ± elliptic perforations; in larger, climbing juvenile shoots 15–27 × 8.8–11 cm, ovate, unequal, apex acute to subacute, hardly acuminate, base truncate to emarginate or subcordate on wider side, subacute to rounded on narrower side, lustrous dark green above, paler and lustrous below, midrib and primary lateral veins impressed above and concolorous with blade, below prominent and whitish, perforations 5–16, in 1–2 series on each side, usually in single series on each side, larger perforations elliptic to irregularly elongated, extending from near the midrib to the leaf margin and some breaking through it, smaller perforations ± circular, adjacent to midrib, usually fewer. Adult plant: 28–71 × 18–31.5 cm, 1.2–2.3 times longer than wide, usually ovate less often oblong-ovate, hardly to strongly unequal, not falcate to strongly falcate, apex acute, subacute, obtuse or rounded, cuspidate to shortly acuminate at extreme apex, base subacute to truncate, emarginate or subcordate on wider side, subacute, rounded or truncate on narrower side, mean of angles on each side 63–102°, margins curving to form a short wedge at petiole insertion, dark green, lustrous to glossy above, paler and duller below, midrib sulcate and major veins impressed above, prominent and distinctly paler below, primary lateral veins (9–)10–14(–20) on wider side, the lowermost 3–4 veins being very close together; perforations (7–)17–40(–60), most commonly between 15 and 33, roughly elliptic, ovate or very elongated, sometimes distorted, in 1–2 series in each half of the blade, the larger, more elongated perforations usually extending from near midrib to near leaf margin, often reaching and breaking through it, the smaller more circular perforations lying near the midrib, interprimary fields with 0–3 perforations, most often with only 1, in more perforated leaves the interprimary fields contain 1 elongated major perforation reaching leaf margin and 1–2(–3) minor perforations forming a group next to midrib. **Inflorescences.** 1–4 in each floral sympodium; prophylls and cataphylls of floral sympodium paler than leaf blade when dried, 9–24 cm long; peduncle (10–)12.7–23.4, same colour and markings as petiole, elliptic in cross-section; spathe 13.5–17 cm long, about as wide as long when opened out, inflated-orbicular, opening widely at anthesis with somewhat revolute margins, whitish cream, slightly green tinged externally where more exposed to light, 0.7–1.2 times as long as peduncle; spadix 7.4–16.3 × 1.1–2.5 cm, 4.8–10.3(–12.8) times longer than diam., 0.5–1.1 times as long as peduncle, 0.5–0.6 times as long as spathe, cylindrical to somewhat clavate, whitish cream at anthesis, becoming dull pale green or even slightly blueish-green in the postfloral phase, basal 1–2 cm usually rather narrower; fertile gynoecia with flattened polygonal style apex 0.25–0.58 × 0.18–0.63 cm when seen from above, stigma 0.18–0.28 × 0.04–0.1 cm, linear, oriented longitudinally, sessile to subsessile, stigmatophore 0.03–0.08 cm high, flowers of basal portion sterile, glandular with stylar region somewhat narrowed. **Infructescence.** Immature fruits green, white when mature with very pale yellowish style apex and darker stigma remains.

Life Form

Liana/scandent/vine

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Atlantic Rainforest

Vegetation Types

Ombrophylous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

Northeast (Bahia, Pernambuco)

Southeast (Espírito Santo)

HERBARIUM MATERIAL

A.P. Prata et. al., 3443, ASE,  (RB01074432), Sergipe

M.F. Landim, 1033, ASE, ,  (RB00912090), Sergipe

M.L.S. Guedes, s.n., ALCB (ALCB005308), Bahia

M. Nadruz, 1204, CEPEC, 69427, Bahia

Monstera adansonii subsp. *klotzschiana* (Schott) Mayo & I.M. Andrade

Has as synonym

basionym *Monstera klotzschiana* Schott
 homotype *Monstera adansonii* var. *klotzschiana* (Schott) Madison
 homotype *Monstera pertusa* var. *klotzschiana* (Schott) Engl.
 heterotypic *Monstera brownii* S.Moore
 heterotypic *Monstera coriacea* Engl.
 heterotypic *Monstera gaudichaudii* Schott
 heterotypic *Monstera lanceifolia* Schott
 heterotypic *Monstera modesta* Schott
 heterotypic *Monstera oblongifolia* Schott
 heterotypic *Monstera parkeriana* Schott
 heterotypic *Monstera peckoltii* K.Krause
 heterotypic *Monstera pertusa* var. *modesta* (Schott) Engl.
 heterotypic *Monstera velloziana* Schott

DESCRIPTION

Hemi-epiphyte, root climber with distichous leaves. **Stem.** Juvenile plant: internodes 0.6–5 × 0.8–1 cm; anchor roots in clusters below nodes, terrestrial, climbing or flagelliform. Adult plant: internodes 0.5–3.5 × 1.5–4 cm, elliptic in cross section, lustrous, dark green with numerous paler green minute dots, smooth; anchor roots distributed along the internode on side adjacent to host trunk, feeder roots solitary per node, up to 1.8 cm diam.; continuation shoot starting with prophyll and two cataphylls. **Petiole.** Juvenile plant: sheath extending to petiole apex and auriculate apically, margins involute to convolute. Adult plant: 20–47.5 cm long (including geniculum), epidermis darkish green, densely covered with numerous tiny whitish-green dots, when dried similar in colour to leaf blade, apical geniculum 1–3.5 cm long, 2 cm deep, prominent, sulcate and winged on margins above; sheath extending to geniculum and auriculate apically, margins erect to convolute, remaining intact and green. **Leaf blade.** Juvenile plant: 12–38 × 3–14.2 cm, usually narrowly to broadly elliptic, sometimes ovate or oblong, unequal, often falcate, apex acute or acuteacuminate, base acute; perforations 0–4, usually absent, seen only in larger juvenile leaves (>25 cm long). Adult plant: 28.5–65 × 11.5–26.5 cm, 1.2–2.6 times longer than wide, ovate, oblong, elliptic, sometimes narrowly so, usually ± unequal but not strongly so, apex acute to obtuse or rounded and shortly cuspidate, base often ± equal, usually acute on each side, sometimes rounded to truncate, mean of angles on each side 34–78°, rich glossy green to dark green above, slightly paler and less glossy below, midrib sulcate and major veins impressed above, prominent and distinctly paler below, primary lateral veins 9–12(–14); perforations 0–9(–14), always more numerous in the wider half-lamina, approximately elliptic, often extending for less than half the width of one half-lamina, but sometimes almost as wide as the half-lamina, arising ± distant or adjacent to midrib and usually terminating within the margin, sometimes extending almost to margin but not breaking through; usually in a single series located ± centrally in each half-lamina, sometimes with one to a few ± circular, small perforations next to the midrib, interprimary fields always with no more than 1 perforation. **Inflorescences.** 1–3 in each floral sympodium, prophylls and cataphylls of floral sympodium similar in colour to leaf blade when dried, 16–25 (–44) cm long; peduncle 6.6–23.2(–31.1) cm, up to 2 cm diam. elliptic in cross-section, same colour and markings as petiole; spathe 11.7–21.4 cm long, 0.6–1.7 times as long as peduncle, usually slightly longer than wide, broadly ellipsoid to inflated-orbicular, opening widely at anthesis with somewhat revolute margins, cream-coloured, paler internally and often greenish- or yellowishtinged externally; spadix 6.2–16.4 × 1.4–3.1(–3.4) cm, 3.1–5.8(–6.8) times longer than diam., 0.4–1.1 times as long as peduncle, 0.3–0.7 times as long as spathe, subcylindric, white to cream, becoming green in postfloral phase; fertile gynoecia with distinctly raised and conical style apex 0.18–0.44 × 0.15–0.41 cm when seen from above, stigma 0.10–0.18(–0.27) × 0.05–0.15 cm, orange at female anthesis, elliptic, borne on distinct stigmatophore 0.07–0.16 cm high, flowers of basal portion sterile and glandular. **Infructescence.** Immature infructescence off-white, old stigmas prominent, mature berries white.

Life Form

Herb, Liana/scandent/vine

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest, Atlantic Rainforest

Vegetation Types

Ombrophylous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Amapá, Pará, Roraima)

Northeast (Alagoas, Bahia, Ceará, Paraíba, Pernambuco, Sergipe)

Central-west (Mato Grosso)

Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo)

South (Paraná, Rio Grande do Sul, Santa Catarina)

HERBARIUM MATERIAL

A.F.M. Glaziou, 16501, P (P02128825), Rio de Janeiro

A.F.M. Glaziou, 16500, P (P02128834), Rio de Janeiro

A.F.M. Glaziou, 16500, P (P02128833), Rio de Janeiro

A.F.M. Glaziou, 16501, P (P02128823), Rio de Janeiro

A.F.M. Glaziou, 16501, P (P02128823), Rio de Janeiro

A.F.M. Glaziou, 16501, P (P02128824), Rio de Janeiro

A.F.M. Glaziou, 16500, P (P02128832), Rio de Janeiro

A. Saint-Hilaire, B1/1039, P (P02128828), Minas Gerais

A. Saint-Hilaire, B1/1039, P (P02128826), Minas Gerais

Gaudichaud, 350, P (P02128830), Rio de Janeiro

A.M. Amorim, 4209, CEPEC, 418625,  (RB00472402), Bahia

C.M. Mynssen, 413, RB, 391399,  (RB00472393), Rio de Janeiro

R.M. Harley, 16571, P (P02128829), Bahia

D.D. Andrade Lima, s.n., RB, 152385,  (RB00472299), Paraíba

S.J. Mayo, 772, RB,  (RB00472364), Bahia

Monstera adansonii subsp. *laniata* (Schott) Mayo & I.M. Andrade

Has as synonym

basionym *Tornelia laniata* Schott
 homotype *Monstera adansonii* var. *laniata* (Schott) Madison
 homotype *Monstera pertusa* var. *laniata* (Schott) Engl.
 heterotypic *Heteropsis ovata* Miq.
 heterotypic *Heteropsis surinamensis* Miq.
 heterotypic *Monstera crassifolia* Schott
 heterotypic *Monstera ecuadorensis* Engl. & K.Krause
 heterotypic *Monstera fenestrata* Schott
 heterotypic *Monstera friedrichsthali* Schott
 heterotypic *Monstera holtoniana* Schott
 heterotypic *Monstera milleriana* Schott
 heterotypic *Monstera ovata* (Miq.) Schott
 heterotypic *Monstera poeppigii* Schott
 heterotypic *Monstera surinamensis* (Miq.) Schott
 heterotypic *Tornelia lindenii* Schott ex Engl.

DESCRIPTION

Root-climbing hemi-epiphyte attaining large stature or becoming weedy in open disturbed humid habitats. **Stem** with internodes 0.4-20'3.3-4 cm, leaves (seen in adult plant) distichous. **Petiole** 43-65.6 cm long, green with minute white dots, upper free part adaxially flattened with angled margins and apical geniculum, sheath up to 55 cm long with persistent, green margins. **Leaf blade** in adult plants ca. 35-57'20.9-32.5 cm, oblong, asymmetric, varying from coriaceous to membranaceous, perforations 0-9 on each side, apex acute, base usually asymmetric, cuneate to truncate, primary lateral veins 14-19 on each side, arching and running into a submarginal collective vein, finer veins parallel to primary laterals. **Inflorescences**: floral sympodium consisting of a 1-2 inflorescences preceded by two cataphylls: first cataphyll (bracteole) 16-21'2.5-2.8 cm, second cataphyll (mesobracteole) 24-25'4-5.3 cm, peduncle 10-22.5 cm long, green; spathe 9.8-16'5.7-10 cm, cymbiform, erect, thick, externally cream to greenish-cream, internally paler cream to white, opening partially at female anthesis in the central part but with apical and basal margins still somewhat convolute, at male anthesis opening wider with a broadly elliptic gape and at least one margin revolute, then becoming completely caducous soon after male anthesis; spadix erect, 7.5-13.2'1.3-3.5 cm, subcylindric, stout, apex rounded, some basal flowers lacking stamens; flowers bisexual, lacking perigone, gynoecea distinctly prismatic, 4-5 mm diam. at anthesis, ca. 4-6'4-6 mm in fruit, pale cream, stylar region flattened apically, stigma up to 3 mm long at anthesis, linear to narrowly elliptic. Berries cream at apex with dark brown stigma remains, compressed and sub-hexagonal, white and succulent below.

Life Form

Herb

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest, Atlantic Rainforest

Vegetation Types

Ombrophyllous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

North (Amazonas, Pará)

Northeast (Bahia, Ceará)

HERBARIUM MATERIAL

L.S.B Calazans, 515, RB,  (RB01079466), Amapá

Monstera aureopinnata Croat

DESCRIPTION

Leaf: juvenile leaf patent; **petiole sheath** persistent entire; **blade division** regular pinnate lobate; **leaf tertiary veins** parallel to secondary veins; **pinna base** not narrowed; **pinna division** deep divided. **Inflorescence:** **spathe adaxial colour** cream/white; **peduncle length** shorter than spadix. **Flower:** **stylar region apex shape** prominent acute to acuminate; **stigma shape** circular. **Fruit:** **berry colour** orange/red.

Life Form

Liana/scandent/vine

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Inundated Forest (Várzea)

Geographic Distribution

Confirmed occurrences

North (Amazonas)

HERBARIUM MATERIAL

B.A. Krukoff, 4752, A

REFERENCE

Croat, T.B., Swart, A., Yates, E.D. (2005). New species of Araceae from the Rio Cenepa region, Amazonas Department, Peru. *Rodriguesia* 56(88): 65 - 126.

Monstera deliciosa Liebm.

Life Form

Herb

Substrate

Epiphytic

DISTRIBUTION

Cultivated, Not endemic to Brazil

Vegetation Types

Anthropic area

Geographic DistributionConfirmed occurrences

Central-west (Distrito Federal)

Southeast (Minas Gerais, Rio de Janeiro, São Paulo)

South (Paraná, Santa Catarina)

HERBARIUM MATERIAL

R.J.F.Garcia, 3498, PMSP (PMSP014183)

L. Krieger, s.n., RB, 358560, ,  (RB00472360), Minas Gerais

Monstera dissecta (Schott) Croat & Grayum

Has as synonym

basionym *Tornelia dissecta* Schott

heterotypic *Monstera longipedunculata* Matuda

heterotypic *Monstera peruviana* Engl.

DESCRIPTION

Leaf: juvenile leaf patent; **petiole sheath** persistent entire; **blade division** regular pinnate lobate; **leaf tertiary veins** parallel to secondary veins; **pinna base** not narrowed; **pinna division** deep divided. **Inflorescence:** **spathe adaxial colour** white; **peduncle length** longer than spadix. **Flower:** **stylar region apex shape** truncate; **stigma shape** linear/short oblong. **Fruit:** **berry colour** pale yellow.

Life Form

Herb

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Unknown

Phytogeographic Domains

Amazon Rainforest, Central Brazilian Savanna

Vegetation Types

Cerrado (lato sensu), Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Tocantins)

Central-west (Goiás)

HERBARIUM MATERIAL

C. Ferreira, 2855, US, NY

G.T. Prance, 7437, NY, US

G.T. Prance, 14458, NY, US

REFERENCE

Madison, M.T. (1977). A revision of *Monstera* (Araceae). Contributions from The Gray Herbarium of Harvard University 207: 57 - 60.

Croat, T.B. & Grayum, M.H. (1987). New combinations in Central American Araceae. Annals of the Missouri Botanical Garden 74(3): 659-660.

Goncalves, E.G. (2004). Araceae from Central Brazil: Comments on their diversity and biogeography. Annals of the Missouri Botanical Garden 91: 457-463.

Monstera dubia (Kunth) Engl. & K.Krause

Has as synonym

basionym *Marcgravia dubia* Kunth

heterotypic *Monstera acreana* K.Krause

heterotypic *Monstera irritans* Simmonds

DESCRIPTION

Leaf: juvenile leaf adpressed; **petiole sheath** deciduous; **blade division** perforate/entire/regular pinnate lobate; **leaf tertiary veins** reticulate; **pinna base** not narrowed; **pinna division** short divided. **Inflorescence:** **spathe adaxial colour** pinkish/white; **peduncle length** shorter than spadix. **Flower:** **stylar region apex shape** truncate; **stigma shape** short oblong. **Fruit:** **berry colour** greenish/pale yellow.

Life Form

Herb

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Pará, Rondônia)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

Forero, E., 7077, INPA, NY, US

G.T. Prance, 12502, US, NY, INPA

REFERENCE

Madison, M.T. (1977). A revision of *Monstera* (Araceae). Contributions from the Gray Herbarium of Harvard University. 207: 77-82.

Monstera lechleriana Schott

Has as synonym

heterotypic *Monstera maxima* Engl. & Krause

DESCRIPTION

Leaf: juvenile leaf patent; **petiole sheath** persistent entire; **blade division** perforate/entire; **leaf tertiary veins** parallel to secondary veins; **pinna base** absent character; **pinna division** absent character. **Inflorescence:** **spathe adaxial colour** pale yellow/white; **peduncle length** more or less equal to spadix/longer than spadix. **Flower:** **stylar region apex shape** truncate/prominent obtusely conical; **stigma shape** elliptic/short oblong. **Fruit:** **berry colour** cream/yellow.

Life Form

Herb

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest, Atlantic Rainforest

Vegetation Types

Inundated Forest (Igapó), Terra Firme Forest, Ombrophyllous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

North (Acre, Pará)

Northeast (Bahia)

HERBARIUM MATERIAL

T.B. Croat, 85315, RB

REFERENCE

Madison, M.T. 1977. A revision of *Monstera* (Araceae). *Contrib. Gray Herbarium Harvard Univ.* 207: 1-100.

Monstera obliqua Miq.

This treatment is composed of the following taxa: *Monstera obliqua*, .

Has as synonym

homotype *Heteropsis obliqua* Miq. ex Engl.
 heterotypic *Monstera boliviana* Rusby
 heterotypic *Monstera expilata* Schott
 heterotypic *Monstera falcifolia* var. *latifolia* K.Krause
 heterotypic *Monstera falcifolia* Engl.
 heterotypic *Monstera fendleri* Engl.
 heterotypic *Monstera killipii* K.Krause
 heterotypic *Monstera microstachys* Schott
 heterotypic *Monstera obliqua* var. *expilata* (Schott) Engl.
 heterotypic *Monstera sagotiana* Engl.
 heterotypic *Monstera snethlagei* K.Krause
 heterotypic *Monstera unilateralis* Rusby

DESCRIPTION

Leaf: juvenile leaf patent; **petiole sheath** deciduous; **blade division** perforate/entire; **leaf tertiary veins** reticulate/parallel to secondary veins; **pinna base** absent character; **pinna division** absent character. **Inflorescence:** spathe adaxial colour cream/pale green/yellow; **peduncle length** longer than spadix. **Flower:** stylar region apex shape truncate; **stigma shape** linear short branched. **Fruit:** berry colour orange.

Life Form

Liana/scandent/vine

Substrate

Epiphytic, Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest, Atlantic Rainforest

Vegetation Types

Terra Firme Forest, Ombrophyllous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Amapá, Pará, Rondônia, Roraima)
 Northeast (Bahia, Ceará, Maranhão, Pernambuco)
 Central-west (Mato Grosso)
 Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo)

HERBARIUM MATERIAL

Quinet, A., 985, MG
 Silva, M.N., 160, MG

REFERENCE

Madison M.T. 1977. A revision of *Monstera* (Araceae). Contributions from the Gray Herbarium of Harvard University 207: 1-100.

Monstera praetermissa E.G.Gonç. & Temponi

DESCRIPTION

Leaf: juvenile leaf patent; **petiole sheath** marcescent/deciduous; **blade division** perforate/entire; **leaf tertiary veins** parallel to secondary veins; **pinna base** absent character; **pinna division** absent character. **Inflorescence:** **spathe adaxial colour** orange/yellow; **peduncle length** longer than spadix. **Flower:** **stylar region apex shape** truncate; **stigma shape** linear. **Fruit:** **berry colour** orange/yellow.

ADDITIONAL DESCRIPTION

Hemi-epiphyte, root climber. **Stem.** **Juvenile plant:** internodes 2–3 × ca. 0.5 cm, elliptic in section, flattened against substrate, exposed side rather dark green and lustrous, minutely rugulose-verruculose, the verruculae concolorous with the rest of the epidermis, new branching shoots starting with ca. 4 black-marcescent cataphylls clasping stem. **Adult plant:** internodes ca. 3 × 1.2 cm, similar in colour and texture to juvenile stem. **Petiole.** **Juvenile plant:** 11–24 cm long, shorter than blade, smooth, green, lustrous, free petiole and geniculum sulcate above with angled margins; sheath up to threequarters as long as whole petiole, margins very rapidly marcescent and deciduous, withering to brown-black membranaceous fragments. **Adult plant:** 31–37 cm long, geniculum 2–3 cm long; sheath always turning blackbrown membranaceous and marcescent, reaching almost to geniculum. **Leaf blade.** Turning dark brown when dried. **Juvenile plant:** 19.5–40 × 7–19.5 cm, narrowly ovate to ovate, strongly unequal, falcate, apex acute-acuminate, base acute to subacute on each side, or truncate to subacute on wider side and acute on narrower side, dull to glossy dark green above, paler and lustrous-glossy below with whitish stomata, main veins concolorous and impressed above, midrib paler than blade below, major veins prominent below, blade softly coriaceous; perforations 0–5, usually absent in leaves narrower than 5 cm, elliptic or sometimes distorted, starting next to midrib and larger ones usually extending to the leaf margin, interprimary fields always with no more than 1 perforation. **Adult plant:** 38–50 × 18.5–32 cm, 1.4–1.6 times longer than wide, ovate to broadly ovate, strongly unequal, falcate, apex acute-acuminate, base truncate on wider side, acute on narrower side, rather dark glossy green above, paler and lustrous below, primary lateral veins 5–8 on wider side, impressed and concolorous above, prominent and paler than blade below, forming inconspicuous submarginal collective vein, fine venation reticulated; perforations ca. 4–10, narrowly elliptic, most extending for the entire width of the half-lamina, starting usually very close to midrib and terminating at leaf margin, very often breaking through to form an irregularly pinnatisect leaf, at least on one side; in a single series, interprimary fields always with no more than 1 perforation. **Inflorescence.** 1–3 in each floral sympodium, prophylls and cataphylls of floral sympodium similar in colour to leaf blade when dried, ca. 11 cm long; **peduncle** 8–13 cm long; **spathe** 8.4–8.5 cm long, 0.6–0.8 times as long as peduncle, at anthesis broadly ellipsoid and opening widely, creamy yellow to yellow or orange; **spadix** 5.7–6.9 × 1.1–2.2 cm, 3.1–5.3 times longer than diam., 0.5–0.6 times as long as peduncle, ca. 0.7 times as long as spathe, cylindric, yellow or cream yellow at anthesis; **fertile gynoecia** with flattened polygonal style apex 0.35–0.43 × 0.26–0.42 cm when seen from above, stigma 0.22–0.24 × 0.05–0.06 cm, linear, oriented longitudinally, sessile to subsessile, stigmatophore 0.04–0.05 cm high. **Infructescence.** Cylindric, erect, mature fruits yellow to orange.

Life Form

Herb

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Amazon Rainforest, Atlantic Rainforest

Vegetation Types

Seasonally Semideciduous Forest, Ombrophylous Forest (Tropical Rain Forest)

Geographic DistributionConfirmed occurrences

North (Acre, Pará, Rondônia)

Northeast (Bahia, Ceará, Pernambuco)

Central-west (Goiás, Mato Grosso)

Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo)

South (Paraná)

HERBARIUM MATERIAL

s.c., 3091, VIES (VIES016812), Espírito Santo

T. Konno, 287, RUSU, 541174,   (RB00699034), Rio de Janeiro

Pessoa, S.V.A., 1645, RB, 417896

W.W. Thomas, 10179, RB, 417896, **Typus****REFERENCE**Gonçalves, E.G. & Temponi, L.G. 2004. A new *Monstera* (Araceae: Monsteroideae) from Brazil. *Brittonia* 56(1): 72-74.Andrade, I.M., Mayo, S.J., Kirkup, D., Van den Berg, C. (2008). Comparative morphology of populations of *Monstera* Schott (Araceae) from natural forest fragments in Northeast Brazil using elliptic Fourier Analysis of leaf outlines. *Kew Bulletin* 63: 193 – 211.

Monstera spruceana (Schott) Engl.

Has as synonym

heterotypic *Tornelia spruceana* Schott

DESCRIPTION

Leaf: **juvenile leaf** adpressed; **petiole sheath** marcescent/deciduous; **blade division** regular pinnate lobate; **leaf tertiary veins** parallel to secondary veins; **pinna base** not narrowed; **pinna division** deep divided. **Inflorescence:** **spathe adaxial colour** pale green/white; **peduncle length** shorter than spadix. **Flower:** **stylar region apex shape** truncate; **stigma shape** linear. **Fruit:** **berry colour** white.

Life Form

Herb

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Amapá, Pará, Rondônia)

HERBARIUM MATERIAL

R. Spruce, 2293, K

REFERENCE

Madison, M. A revision of *Monstera* (Araceae). *Contributions from the Gray Herbarium of Harvard University*. 207: 77-82. 1977

Monstera subpinnata (Schott) Engl.

DESCRIPTION

Leaf: juvenile leaf patent; **petiole sheath** deciduous; **blade division** regular pinnate lobate; **leaf tertiary veins** parallel to secondary veins; **pinna base** narrowed; **pinna division** deep divided. **Inflorescence:** **spathe adaxial colour** cream/pinkish/white/yellow; **peduncle length** shorter than spadix/more or less equal to spadix. **Flower:** **stylar region apex shape** prominent acute to acuminate; **stigma shape** circular/short oblong. **Fruit:** **berry colour** orange/yellow.

Life Form

Herb

Substrate

Hemiepiphytes

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Acre, Pará)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

T.B. Croat, 85782, MO

C.R. Sperling, 6196, MO