

Virola Aubl.

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This treatment is composed of the following taxa: *Virola*, *Virola albidiflora*, *Virola bicuhyba*, *Virola caducifolia*, *Virola calophylla*, *Virola carinata*, *Virola coelhoi*, *Virola crebrinervia*, *Virola decorticans*, *Virola divergens*, *Virola duckei*, *Virola elongata*, *Virola flexuosa*, *Virola gardneri*, *Virola guggenheimii*, *Virola loretensis*, *Virola malmei*, *Virola marleneae*, *Virola michelii*, *Virola minutiflora*, *Virola mollissima*, *Virola multicostata*, *Virola multinervia*, *Virola obovata*, *Virola officinalis*, *Virola parvifolia*, *Virola pavonis*, *Virola peruviana*, *Virola polyneura*, *Virola rugulosa*, *Virola sebifera*, *Virola sessilis*, *Virola subsessilis*, *Virola surinamensis*, *Virola urbaniana*, *Virola venosa*.

HOW TO CITE

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Has as synonym

Bicuiba W.J.de Wilde

Palala Rumph. ex Kuntze

Sebophora Neck.

DESCRIPTION

Trees, seldom shrubs, dioecious, evergreen or rarely deciduous. **Exudate** watery, becoming red, brownish or yellow or less often remaining transparent. **Leaves** simple, alternate, mostly distichous, entire; **leaf blade** coriaceous, chartaceous or less often membranous, pubescent, puberulent or becoming glabrous; **hairs** sessile stellate, stipitate stellate or dendritic; **venation** pinnate, mostly anastomosing very near the margin, number of secondary veins much variable; **margin** entire. **Inflorescences** axillary or sometimes supra-axillary, a panicle or a fasciculate raceme, mostly with a single peduncle; **bracts** distal, membranous and around flower fascicles, soon deciduous. **Flowers** pedicellate, unisexual, actinomorphic; **tepals** (2-) 3 (-5) in 1 whorl, partly connate, often fleshy, whitish, greenish to yellow, valvate; **bracteoles** absent. **Staminate flowers** recorded more often than pistillate ones; **stamens** fused to a column (androphore); **anthers** 3 (rarely 2 or up to 6), adnate to column in different degrees, rarely free, dehiscing by longitudinal slits. **Pistillate flowers** usually larger than the staminate ones; **ovary** sessile or shortly stipitate, unilocular and unilocular; **stigma** sessile or subsessile, 2-lobed, ovule 1, placentation basal. **Fruits** a dehiscent capsule, bivalvate, globose, ovoid or longitudinally ellipsoidal, pilose, tomentose or glabrous. **Seed** 1, globose, ovoid or ellipsoidal, covered by aril; **aril** red, less often yellow, orange or brown, pink lacinate or entire; endosperm ruminant.

COMMENTS

Virola is the largest genus in the Neotropical Myristicaceae, and also the most widespread. In Brazil, *Virola* is typically Amazonian, where species occur in different vegetation types. *V. sebifera*, *V. calophylla*, *V. surinamensis* and *V. elongata* are among the most common species. A number of species are found in the Cerrado and Atlantic Forest, being *V. bicuhyba* the most common.

This work is ongoing. Although collections of almost all species were examined, the study of a few was still restricted to a small number of collections (especially *V. urbaniana*, *V. sessilis* and *subsessilis*). Information on *V. coelhoi* W.A.Rodrigues, *V. guggenheimii* W.A.Rodrigues, *V. marleneae* W.A.Rodrigues, and *V. polyneura* W.A.Rodrigues was compiled from Rodrigues (1980), since there is very little collections (or only the type) available. Future herbarium visit at INPA, as well as, fieldwork is planned to fill this gap.

Life Form

Shrub, Subshrub, Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest, Central Brazilian Savanna, Atlantic Rainforest

Vegetation Types

Amazonian Campinarana, Cerrado (lato sensu), Riverine Forest and/or Gallery Forest, Inundated Forest (Igapó), Terra Firme Forest, Inundated Forest (Várzea), Seasonally Semideciduous Forest, Ombrophylous Forest (Tropical Rain Forest), Palm Grove, Amazonian Savanna

Geographic DistributionConfirmed occurrences

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

Northeast (Alagoas, Bahia, Ceará, Maranhão, Pernambuco, Piauí)

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

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

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

Possible occurrences

North (Acre, Rondônia)

IDENTIFICATION KEY

1. Leaf blade with dense cover of secondary veins, more than 30 per side, often straight and parallel; perianth of staminate flowers always cleft to half or more, towards the base..... 2
1. Leaf blade with moderate or low cover of secondary veins, less than 25 per side, often not very straight and parallel; perianth of staminate flowers cleft to various lengths..... 12
2. Leaf blade on abaxial surface tomentose, pubescent or puberulent, hairs sessile- or stipitate-stellate or/ and dendritic, persistent at maturity..... 3
2. Leaf blade glabrous or becoming glabrous at maturity, hairs when present mostly sessile stellate.....10
3. Fruits tomentose or pilose, hairs dendritic and persistent through fruit ripening..... 4
3. Fruits glabrous or becoming glabrescent when ripe.....6
4. Leaf blade on adaxial surface pilose..... V. decorticans
4. Leaf blade on adaxial surface glabrescent, hairs, when present, only along the midvein...5
5. Perenifolius..... V. multinervia
5. Shedding leaves during blossom.....V. caducifolia
6. Flowers white, androphore ca. twice the length of the anthers..... V. albidiflora
6. Flowers yellow or ferruginous, androphore slightly longer or shorter than anthers.....7
7. Leaf length varying between 5-18 cm..... 8
7. Leaf length consistently more than 15 cm..... 9
8. Leaf blade on abaxial surface with sessile stellate hairs, glaucous..... V. flexuosa
8. Leaf blade on abaxial surface with dendritic or dendritic stellate hairs, clearly ferruginous.....V. polyneura
9. Trees with buttresses, bark smooth..... V. duckei
9. Trees without buttresses, bark fissured..... V. guggenheimii
10. Leaves membranous..... V. crebrinervia
10. Leaves chartaceous or coriaceous..... 11
11. Secondary veins more than 40 per side.....V. multicosata
11. Secondary veins 30-38 per side..... V. minutiflora
12. Leaf blade on abaxial surface tomentose, pubescent or puberulent, hairs sessile- or stipitate-stellate or/ and dendritic, persistent at maturity.....12
12. Leaf blade glabrous or becoming glabrous at maturity, hairs when present mostly sessile stellate.....17
13. Fruits tomentose or pilose, hairs dendritic and persistent through fruit ripening.....14
13. Fruits with or without indumentum, glabrescent when ripe.....16
14. Androphore almost the same length as anthers.....V. lorentensis
14. Androphore much shorter than anthers (1/2 to 1/3)..... 15

15. Anthers entirely connate; fruits with velutinous indument, densely covered by hairs up to 2.5 mm long... *V. molissima*
15. Anthers free along the apical 1/3; fruits with villose indument, moderately covered by longer hairs.....*V. divergens*
16. Perianth of staminate flowers cleft to 1/3 of its length..... *V. sebifera*
16. Perianth of staminate flowers cleft to half (or more) of its length..... *V. rugulosa*
17. Inflorescences paniculate, branching profusely..... 18
17. Inflorescence racemose, racemose fasciculate or paniculate branching 2-3 times..... 26
18. Perianth of staminate flowers cleft to 1/3 of its length..... 19
18. Perianth of staminate flowers cleft to half or more of its length..... 22
19. Leaf base rounded or subcordate..... 20
19. Leaf base acute or attenuate..... 21
20. Leaves coriaceous; androphore the same length or longer than the anthers..... *V. calophylla*
20. Leaves chartaceous; androphore much shorter than anthers (1/2 to 1/3)..... *V. peruviana*
21. Leaves obovate to elliptic; apex obtuse often cuspidate..... *V. obovata*
21. Leaves linear-oblong; apex acuminate; inflorescences not known, species only known from the type locality in Tefé, Amazonas..... *V. coelhoi*
22. Leaves membranous to chartaceous, staminate flowers cleft to 1/3 of its length.....*V. elongata*
22. Leaves coriaceous to chartaceous, staminate flowers cleft to half or more of its length..... 23
23. Androphore clearly longer than the anthers..... 24
23. Androphore shorter, or as long as, the anthers..... 25
24. Leaves oblong linear with characteristic parallel margins; flowers in fascicles of 10-20; very abundant in periodically flooded forest of Amazonian white waters.....*V. surinamensis*
24. Leaves oblong elliptic without conspicuously parallel margins; flowers in fascicles of 4-8 (-10); occurring in forests along Amazonian black water rivers, i.e. igapós.....*V. carinata*
25. Indument with predominantly sessile-stellate or stipitate-stellate hairs.....*V. pavonis*
25. Indument with predominantly dendritic or dendritic stellate hairs.....*V. urbaniana*
26. Staminate inflorescence paniculate, branching 2-3 times..... 27
26. Staminate inflorescence racemose or racemose fasciculate..... 29
27. Fruit glabrous..... *V. malmei*
27. Fruit with persistent indument..... 28
28. Perianth of staminate flowers cleft to 2/3 of its length *V. parvifolia*
28. Perianth of staminate flowers cleft to 1/3 or at most half of its length..... *V. venosa*
29. Petiole absent or inconspicuous..... 30
29. Leaves clearly petiolate..... 31
30. Leaf abaxial surface covered by dendritic hairs; perianth of staminate flowers cleft to half of its length.....*V. sessilis*
30. Leaf abaxial surface covered by sessile stellate hairs; perianth of staminate flowers cleft to 1/3 of its length..*V. subsessilis*
31. Staminate inflorescence racemose..... 32
31. Staminate inflorescence racemose fasciculate..... 33
32. Leaf base subcordate; androphore slightly longer or, as long as, the anthers..... . *V. officinalis*
32. Leaf base attenuate; androphore shorter than the anthers.....*V. bicuhyba*
33. Leaves coriaceous; androphore shorter than the anthers.....*V. gardneri*
33. Leaves chartaceous; androphore longer than the anthers *V. michellii*

REFERENCE

- Warburg, O. 1897. Monographie der Myristicaceae. Nova Acta Acad. Caes. Leop. - Carol. German. Nat. Cur. 68: 1-680.
- Rodrigues, W.A. 1980. Revisão taxonômicas da espécies de *Virola* Aublet. (Myristicaceae) do Brasil. Acta Amazonica Suplemento 10(1): 1-127.
- Ducke, A. (1936). Notes on the Myristicaceae of Amazonian Brazil, with description of new species. Journal of the Washington Academy of Sciences, 26(6), 253–264. <https://www.biodiversitylibrary.org/page/39872456>
- Smith, A. C., & Wodehouse, R. P. (1937). American Species of Myristicaceae - *Virola*. Brittonia, 2(5), 453–509. <https://www.jstor.org/stable/2804805?seq=1>

Virola albidiflora Ducke

DESCRIPTION

Leaf: petiole canaliculate; texture chartaceous; abaxial surface pubescent; hair when present stipitate stellate; blade oblong; apex acuminate/acute; base cordate/rounded; secondary veins 20 - 35 per side. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore longer than anther; anther 3; perianth cleft circa of the 1 third. **Fruit:** shape ellipsoid; indumentum absent. **Seed:** aril red; shape ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Rondônia)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

B.A. Krukoff, 8103, NY

C. Ferreira, 8664, NY

B.S. Pena, E. Forero, J.F. Ramos, 6370, NY

A. Ducke, 24563, RB, K,  (K000575152), **Typus**

REFERENCE

Journ. Wash. Acad. Sc. 26: 259.1936 .

Virola bicuhyba (Schott ex Spreng.) Warb.

This treatment is composed of the following taxa: *Virola bicuhyba*, .

Has as synonym

basionym *Myristica bicuhyba* Schott ex Spreng.

Virola oleifera (Schott) A.C.Sm.

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** coriaceous; **abaxial surface** glabrescent; **hair when present** sessile stellate/stipitate stellate; **blade** oblong/lanceolate; **apex** acuminate/acute; **base** attenuate; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** 1 - 2 (3); **type** racemose. **Flower:** **androphore** shorter than anther; **anther** 3/completely connate; **perianth** cleft to the base. **Fruit:** **shape** ellipsoid; **indumentum** absent. **Seed:** **aril** red; **shape** ellipsoid.

COMMENTS

The status of this species is being studied. W. de Wilde considered it to belong to its own monotypic genus, *Bicuiba* (Schott) W.J. de Wilde. Rodrigues (1998) published the nomenclatural and taxonomic reinstatement accepted in this Flora. Because the arguments of the former author regarding inflorescence development are still relevant, future work integrating molecular data might change this status.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Atlantic Rainforest

Vegetation Types

Riverine Forest and/or Gallery Forest, Ombrophylous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

Northeast (Bahia)


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

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

HERBARIUM MATERIAL

R.L. Fróes, 33385, IAN

M. Kuhlmann, 2815, IAN

A.V. Guislon, s.n., CRI, 15200,  (CRI014615), Santa Catarina

REFERENCE

Rodrigues, W. A. Acta Bot. Brasil. 12(3): 249-252. 1998.

Rodrigues, W. A. Flora de São Paulo. v.2: 210-211. 2002

Warburg, O. Act. Nat. Cur. 68: 194lxviii. 194

Virola caducifolia W.A.Rodrigues

DESCRIPTION

Leaf: petiole canaliculate; **texture** coriaceous; **abaxial surface** puberulent/glabrescent; **hair when present** sessile stellate/stipitate stellate; **blade** oblong-elliptic/oblong/obovate; **apex** acuminate/apiculate/acute; **base** cordate; **secondary veins** more than 40. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** of the equal length or longer than anther; **anther** 3/ completely connate; **perianth** cleft circa of the 1 third. **Fruit:** **shape** ovoid/ellipsoid; **indumentum** absent. **Seed:** **aril** pink; **shape** ellipsoid.

COMMENTS

This is one of the few species of *Virola* that show deciduousness; they shed their leaves when flowering.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Amazonian Campinarana, Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Amazonas, Pará)

Possible occurrences

North (Rondônia)

HERBARIUM MATERIAL

R.L. Fróes, 31005, NY,  (NY01480448), IAN

W.A. Rodrigues, 9263, MG (MG067539), **Typus**

REFERENCE

Acta Amazonica 7(4): 459 (1977) 7(4): 459 (1977)

Virola calophylla Warb.

Has as synonym

heterotypic *Virola calophylloidea* Markgr.

DESCRIPTION

Leaf: petiole canaliculate; **texture** coriaceous; **abaxial surface** pubescent/puberulent; **hair when present** sessile stellate; **blade** oblong-elliptic/oblong/ovate; **apex** acuminate/cuspidate; **base** cordate/obtuse; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** of the equal length or longer than anther; **anther** 3/(4 - 6)/completely connate; **perianth** cleft circa of the 1 third. **Fruit:** **shape** ovoid/ellipsoid; **indumentum** tomentose. **Seed:** **aril** red/orange; **shape** ellipsoid.

ADDITIONAL DESCRIPTION

Trees up to 20m tall, exsudate red, branchlets puberulent with sessile-stellate hairs, petiole canaliculated, 3-5 mm width, 7-30 mm long. Leaves simple, alternate, distichous, coriaceous; leaf blade oblong to oblong-elliptic or ovate-oblong, (10-) 25-33 (-55) x (3-) 10-14 (-24) cm, base cordate, truncate or broadly obtuse, apex acuminate or cuspidate (?not acute?), adaxial surface shiny and glabrous, abaxial surface matt and puberulent, sometimes glabrous or early caducous, with ferruginous punctuations (glands at the base of the hairs), hairs sparce, when present sessile stellate or dendritic stellate, rarely stipitate; venation pinnate, main vein prominent on both surfaces, secondary veins prominent abaxially well spaced, 12-27 per side, curved upwards. Inflorescence broadly paniculate, pedunculate, single branching, (hairs)? Staminate inflorescence up to 30 cm long, peduncle up to 7 cm until the first ramification; staminate flowers irregularly arranged in groups of 3 to 10, subsessile or with short pedicels of 0.1 to 0.3 cm; perianth fleshy, glabrous inside, connate up to 1/3 of its length, 3-lobed, lobes obtuse; androecium 1-1.7 mm, filament column slightly longer than anthers, abruptly narrowed, anthers 3, connate to apex, bluntly apiculate, fruit subglobose, or longitudinally ellipsoid to obovoid, 1.5-2.5 cm. long, 1.2-1.5 cm thick, pericarp 1-5 mm thick; aril orange-redish, laciniate to ca. 1/2 of its length.

COMMENTS

This is one of the most common species of *Virola*, and widely distributed, especially across Amazonia.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest, Inundated Forest (Várzea)

Geographic Distribution

Confirmed occurrences

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

Central-west (Mato Grosso)

HERBARIUM MATERIAL

B.A. Krukoff, 4657, US, S, U, NY, NY,  (NY1594937)

Virola carinata (Benth.) Warb.

Has as synonym

basionym *Myristica carinata* Benth.

DESCRIPTION

Leaf: petiole canaliculate; texture coriaceous; abaxial surface puberulent/glabrescent; hair when present sessile stellate; blade elliptic/oblong-elliptic/ovate; apex acute; base rounded/obtuse; secondary veins 10 - 25 per side. **Inflorescence:** peduncle single; type panicate. **Flower:** androphore longer than anther; anther 3; perianth cleft to the base. **Fruit:** shape ovoid; indumentum absent. **Seed:** aril red/orange; shape globose.

Life Form

Tree

Substrate

Terrestrial

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, Roraima)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

R. Spruce, 1343, K, 21203,  (K000575161), K, 21203,  (K000575162), Amazonas, **Typus**

Eniel David Cruz, 940, CEN (CEN00114690), Pará

A. Ducke, s.n., RB, 21203,  (RB00227068), Pará

REFERENCE

Acta amazonica 10(1).Supl. : 44-46. 1980

Virola coelhoi W.A.Rodrigues

DESCRIPTION

Leaf: petiole canaliculate; texture coriaceous; abaxial surface puberulent; hair when present sessile stellate; blade oblong/obovate; apex acuminate/cuspidate; base attenuate/obtuse; secondary veins 20 - 35 per side. **Inflorescence:** peduncle single; type fasciculate raceme. **Flower:** androphore unknown; anther unknown; perianth unknown. **Fruit:** shape globose; indumentum unknown. **Seed:** aril unknown; shape unknown.

ADDITIONAL DESCRIPTION

Nenhum material estudado. Descrição transcrita de Rodrigues (1980):

Árvore de 25m de altura, tronco sem sapopema, de aproximadamente 25cm de diâmetro a altura do peito; raminhos novos delgados, mais ou menos achatados lateralmente, com indumento denso, uniforme e microscopicamente castanho-puberulento como os pecíolos e pedúnculos (tricomas muito pequenos, séssil-estrelados), os mais velhos glabros e acinzentados. Pecíolos delgados, canaliculados, cerca de 1-2mm de diâmetro, 4-12mm de comprimento, rugosos, puberulentos como os raminhos jovens, depois glabrescentes. Lâmina foliar finamente coriácea, linear-oblonga ou obovado-oblonga, 33-230mm de comprimento, 10-47mm de largura, atenuada, aguda ou obtusa na base, obtusamente cuspidada, acuminada, subaguda ou obtusa no ápice, lustrosa e glabra na página superior, densa, uniforme, pálida e indistintamente puberulenta na página inferior (tricomas séssil-estrelados, cerca de 0,1-0,2mm de diâmetro) esparsamente amarelo-punctuada na página inferior; nervura mediana imersa na página superior e elevada na inferior; 20-46 nervuras secundárias de cada lado (folhas adultas muito frequentemente 16-21 por 10cm, ou afastadas 3-11 mm entre si), levemente ascendentes, mais ou menos paralelas, anastomosadas junto às margens, levemente impressas ou promímulas na página superior, promímulas na inferior; vénulas reticuladas promímulas ou obscuras na página superior e indistintas geralmente na inferior. Inflorescência masculina e feminina não vistas, exceto uma inflorescência muito jovem e alguns restos de flores femininas ocasionalmente soltas, encontradas agarradas à exsiccata. Flores robustamente pediceladas; ovário subgloboso, intenso e diminutamente ferrugíneo-puberulento; estigma subséssil obliquamente capitado e fendido. Infrutescência de 25-50mm de comprimento, 1-2-ramificada, ferrugíneo-puberulenta, como os raminhos novos; 1-8 frutos imaturos por infrutescência, amarelo-ferrugíneos, pedicelados (pedicelos grossos de mais ou menos 3-4mm de diâmetro, 3-4mm de comprimento), subglobosos, 7-17mm de diâmetro, arredondados e curtamente estipitados na base (estipes grossos de 1-2mm de comprimento), arredondados no ápice, carinados em torno da sutura superior, diminutamente ferrugíneo-puberulento ou séssil-estrelados, glabrescentes; pericarpo de 1-3mm de espessura; sementes não vistas.

COMMENTS

Apenas três espécimens conhecidos, da localidade típica no município de Tefé - Amazonas. Inflorescências masculinas e femininas inteiras e maduras nunca vistas. Descrição do autor (Rodrigues 1980) transcrita abaixo.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Amazonas)

HERBARIUM MATERIAL

R.L. Fróes, 26220, INPA

D. Coêlho, s/n, INPA, 53124, **Typus**

Rodrigues, W, 10185, MBM (MBM071851), Amazonas

REFERENCE

Rodrigues, W.A. 1977. Novas espécies de *Virola* Aublet (Myristicaceae) da Amazônia. *Acta Amazonica* 7(4): 459-471.

Virola crebrinervia Ducke

DESCRIPTION

Leaf: petiole canaliculate; texture membranous; abaxial surface glabrescent; hair when present dendritic; blade oblong/lanceolate; apex acuminate; base cordate; secondary veins more than 40. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore of the equal length or longer than anther; anther 3/completely connate; perianth cleft to the half. **Fruit:** shape globose/ellipsoid; indumentum tomentose. **Seed:** aril red; shape globose.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution


Confirmed occurrences

North (Amapá, Pará, Rondônia)

HERBARIUM MATERIAL

N.A. Rosa, 4446, INPA, MG

M.G. Silva, 3538, INPA, MG

A. Ducke, 17182, RB, 25311,  (RB00541819), **Typus**

Virola decorticans Ducke

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** coriaceous; **abaxial surface** pubescent; **hair when present** stipitate stellate/dendritic stellate; **blade** oblong/obovate; **apex** cuspidate; **base** cordate/rounded; **secondary veins** more than 40. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** shorter than anther; **anther** 3; **perianth** cleft to the base. **Fruit:** **shape** ovoid/ellipsoid; **indumentum** velutinous. **Seed:** **aril** red; **shape** ellipsoid/ovoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types



Riverine Forest and/or Gallery Forest, Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Pará, Rondônia)

HERBARIUM MATERIAL

A. Ducke, s.n., RB, 19571,  (RB00557099), RB, 19571,  (RB00541820), **Typus**

REFERENCE

Journ. Wash. Acad. Sc. 26: 262.1936.

Virola divergens Ducke

DESCRIPTION

Leaf: petiole canaliculate; **texture** coriaceous/chartaceous; **abaxial surface** pubescent/glabrescent; **hair when present** dendritic; **blade** lanceolate/ovate; **apex** acuminate/cuspidate/acute; **base** cordate/subcordate/obtuse; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** shorter than anther; **anther** 3/distally divergent; **perianth** cleft circa of the 1 third. **Fruit:** **shape** ovoid/ellipsoid; **indumentum** pilose. **Seed:** **aril** red; **shape** ellipsoid.

COMMENTS

Rodrigues (2002) treated *V. divergens* as a synonym of *V. mollissima* (DC) Warb. The author argued that the most important diagnostic feature could be part of a still unknown variation of *V. mollissima*. Ducke (1936), however, gathered both flowering (staminate and pistillate individuals) and fruiting specimens that, in my view, show enough differentiation between the two species. Therefore I place *Virola divergens* as correct species in this Flora, indicating as important diagnostic features: the anthers - consistently, clearly free on their apical 1/3 in *V. divergens* and completely connate in *V. mollissima*; the fruit indument - hairs longer and less dense in *V. divergens* than in *V. mollissima*.

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains



Amazon Rainforest

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Pará, Rondônia)

HERBARIUM MATERIAL

A. Ducke, s.n., RB, 24550,  (RB00541824), P (P00625878), K,  (K000575119), RB24550:, **Typus** Coêlho, LF, 2995, IAN, 24550 (IAN110561), Amazonas

REFERENCE

Journ. Wash. Acad. Sc. 1936 26: 255.1936 26: 255.

Virola duckei A.C.Sm.

DESCRIPTION

Leaf: petiole canaliculate; texture coriaceous; abaxial surface pubescent; hair when present dendritic; blade oblong/ovate; apex acuminate/acute; base cuneate/obtuse; secondary veins 20 - 35 per side. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore of the equal length or longer than anther; anther 3/completely connate; perianth cleft to the half/cleft to the base. **Fruit:** shape globose/ovoid/ellipsoid; indumentum absent. **Seed:** aril red; shape globose.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Riverine Forest and/or Gallery Forest, Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas)

HERBARIUM MATERIAL

W.A. Rodrigues, 10290, INPA, MG, UPCB

W.W. Thomas, 5309, INPA, MG, UPCB

O.P. Monteiro, 18, INPA, MG, UPCB

A. Ducke, 24562, K,  (K000575153), **Typus**

REFERENCE

Brittonia 2 (5): 487 (1937).

Virola elongata (Benth.) Warb.

Has as synonym

basionym *Myristica elongata* Benth.
 heterotypic *Myristica cuspidata* Spruce ex Benth.
 heterotypic *Myristica membranacea* Poepp. ex A.DC.
 heterotypic *Myristica punctata* Spruce ex Benth.
 heterotypic *Myristica uaupensis* Spruce ex A.DC.
 heterotypic *Virola cuspidata* (Spruce ex Benth.) Warb.

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** chartaceous/membranous; **abaxial surface** puberulent/glabrescent; **hair when present** sessile stellate; **blade** oblong-elliptic/oblong; **apex** acuminate/cuspidate/acute; **base** subcordate/obtuse; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** shorter than anther; **anther** 3/(4 - 6); **perianth** cleft circa of the 1 third. **Fruit:** **shape** ovoid/ellipsoid; **indumentum** absent/minute. **Seed:** **aril** red/yellow/orange; **shape** ellipsoid.

ADDITIONAL DESCRIPTION

Trees up to 25m tall, slender, exsudate redish on trunk and creamy on branches; petiole puberulent, 0.5-1.1 cm long, with sessile-stellate hairs, becoming glabrous, terete or subterete, less often slightly canaliculate; leaves simple, alternate, distichous, thinly chartaceous, narrowly oblong to oblong-elliptic, ca. 14-18.8 cm x 4-6.5 cm, base obtuse, acute or less often attenuate, apex long acuminate or acute; hairs mostly sessile stellate, spread over the abaxial surface or early caducous, slightly denser along the midvein, rarely stipitate; main vein slightly raised adaxially, prominent abaxially, secondary veins 10-17 per side, prominent abaxially, slightly arcuate and ascending close to the margin. Inflorescences densely covered by by dendritic and, less often, sessile stellate hairs. Staminate inflorescences paniculate, many flowered, up to 10-18 cm long, bracteate, bracts oblong, 2-3 mm long, soon deciduous, peduncle up to 3-4 cm until the first ramification; staminate flowers with pedicels of ca. 0.2 cm; perianth (3-) 4-lobed, 0.2-0.3 cm, connate up to half or 2/3 of its length, lobes obtuse; androecium almost the length of perianth, anthers (3-) 4, twice or more the length of the androphore, connate to apex, apiculate. Pistillate inflorescences paniculate, less branched than the staminate ones, up to 7 cm long, peduncle up to ca. 2 cm until first ramification; pistillate flowers single or in small groups of 3-5, pedicels up 0.1 -0.2 cm; perianth fleshy, glabrous inside, connate up to half or 2/3 of its length, 3-lobed, lobes obtuse; ovary subglobose, densely tomentose. Fruit subglobose, ca. 1.5 (-2) cm x 1.2 (-1.5) cm, densely tomentose, hairs short, mostly dendritic; aril red or bright orange, lacinate almost to the base of the fruit.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Riverine Forest and/or Gallery Forest, Inundated Forest (Igapó), Terra Firme Forest, Inundated Forest (Várzea)


Geographic Distribution

Confirmed occurrences

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

Central-west (Mato Grosso)

HERBARIUM MATERIAL

M. Silveira, 1193, INPA, NY
W.A. Rodrigues, 120, INPA, NY
B.W. Albuquerque, 9636, INPA, NY
SCHWACKE, 3531, RB, 112455,  (RB00227098)

REFERENCE

Ber. Deutsch. Bot. Ges. 13: 89.1895

Acta Amazonica 10 (1). Supl.: 54-60. 1980

Virola flexuosa A.C.Sm.

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** membranous; **abaxial surface** puberulent/glabrescent; **hair when present** sessile stellate/stipitate stellate/dendritic; **blade** oblong; **apex** acute; **base** cordate; **secondary veins** more than 40. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** of the equal length or longer than anther; **anther** 3/completely connate; **perianth** cleft to the base. **Fruit:** **shape** ellipsoid/obovoid; **indumentum** absent/minute. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution




Confirmed occurrences

North (Amazonas, Pará, Rondônia)

Possible occurrences

North (Acre)

HERBARIUM MATERIAL

B.A. Krukoff, 6732, NY,  (NY00066956), MO (MO2590273), A,  (A00039898), K,  (K000575144), INPA, Amazonas, **Typus**

REFERENCE

Brittonia 2 (5): 151 (1937).

Virola gardneri (A.DC.) Warb.

Has as synonym

basionym *Myristica gardneri* A.DC.

DESCRIPTION

Leaf: petiole canaliculate; **texture** coriaceous; **abaxial surface** puberulent/glabrescent; **hair when present** sessile stellate; **blade** oblong-elliptic/oblong; **apex** acuminate; **base** attenuate; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** fasciculate raceme. **Flower:** **androphore** shorter than anther; **anther** 3/completely connate; **perianth** cleft circa of the 1 third. **Fruit:** **shape** ellipsoid; **indumentum** absent. **Seed:** **aril** red; **shape** ellipsoid.

ADDITIONAL DESCRIPTION

Trees up to 35m tall, exudate clear red, branchlets puberulent when young, becoming glabrous, darkish. Petiole often canaliculated, sometimes slightly winged distally, ca. 2 cm long. Leaves simple, alternate, distichous, thinly coriaceous, margins entire; leaf blade oblong or oblong-elliptic, 8-16 x 2-5 cm, base attenuate to acute; apex obtuse to short acuminate; adaxial surface glabrous, abaxial surface glabrous or with sparse indumentum, becoming glabrous; hairs when present sessile stellate; venation pinnate, main vein prominent abaxially, secondary veins 10-15 per side. Staminate inflorescence axillary, paniculate, 1 -2 branched, tomentose with sessile stellate hairs, up to 7 cm long, peduncle up to 2 cm until the first ramification; staminate flowers pedicellate, pedicels of 1.5-2 mm; perianth glabrous inside, connate up to one third of its length, 3-lobed, lobes obtuse; androecium 1.5-2 mm, filament column as long as anthers or slightly longer, anthers 3, entirely connate. Pistillate inflorescences up to 8.5 cm long, 1-branched, tomentose to glabrescent, peduncle up to 2 cm long until first ramification; pistillate flowers single or in small groups, subsessile or with very short but thick pedicels up to 2.5 cm; perianth fleshy, glabrous inside, connate up to one third of its length, 3-lobed, (lobes obtuse; ovary ovate, style conspicuous, stigma inclined. Fruits often single, subglobose or longitudinally ellipsoid, becoming glabrous, 2.3-3 cm x 1.5-2.5 cm; pericarp ? mm thick; aril red, laciniate only distally.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Atlantic Rainforest

Vegetation Types

Seasonally Semideciduous Forest, Ombrophyllous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

Northeast (Alagoas, Bahia, Pernambuco)

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

HERBARIUM MATERIAL

A.F.M. Gardner, 5596, K,  (K000575155), K,  (K000575154), E,  (E00373436), **Typus**

R.L. Fróes, 33371, IAN

J. Almeida, 213, IAN

D.A. Lima, 22, IAN

Virola guggenheimii W.A.Rodrigues

DESCRIPTION

Leaf: petiole canaliculate; texture coriaceous; abaxial surface pubescent; hair when present dendritic; blade elliptic/oblong-elliptic; apex cuspidate/acute; base cordate; secondary veins 20 - 35 per side/more than 40. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore of the equal length or longer than anther; anther 3/(4 - 5)/completely connate; perianth cleft to the base. **Fruit:** shape ellipsoid/obovoid; indumentum unknown. **Seed:** aril pink; shape ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Amazonas)

HERBARIUM MATERIAL

O.P. Monteiro; J. Ramos, 983, INPA, 59445, **Typus**

W.A. Rodrigues, 9536, NY,  (NY1594967), INPA

REFERENCE

Acta Amazonica 7(4): 464 (1977)

Virola loretensis A.C.Sm.

Has as synonym

heterotypic *Virola villosa* Ducke

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** chartaceous; **abaxial surface** pubescent/puberulent; **hair when present** dendritic; **blade** oblong-elliptic/oblong; **apex** acute; **base** rounded/subcordate; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** panicate. **Flower:** **androphore** shorter than anther; **anther** 3/(4 - 5); **perianth** cleft to the half. **Fruit:** **shape** ellipsoid; **indumentum** tomentose. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Shrub, Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Inundated Forest (Igapó), Terra Firme Forest, Inundated Forest (Várzea)

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas)

HERBARIUM MATERIAL

A. Ducke, 882, NY, BM, G, GH

B.A. Krukoff, 8070, BM, G, GH, NY

G.T. Prance, 13324, GH, NY, BM, G

REFERENCE

Bull. Torr. Bot. Cl. 58: 95.1931.

Brittonia 2 (5): 458-460. 1937

Virola malmei A.C.Sm.

DESCRIPTION

Leaf: petiole canaliculate; texture coriaceous; abaxial surface puberulent; hair when present sessile stellate; blade elliptic/oblong-elliptic; apex truncate/cuspidate; base rounded/subcordate; secondary veins 10 - 25 per side. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore shorter than anther/of the equal length or longer than anther; anther 3/completely connate; perianth cleft to the base. **Fruit:** shape ovoid/ellipsoid; indumentum absent. **Seed:** aril red; shape ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Amazon Rainforest, Central Brazilian Savanna

Vegetation Types

Cerrado (lato sensu), Riverine Forest and/or Gallery Forest

Geographic Distribution

Confirmed occurrences

North (Acre, Pará)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

B. Maguire, 56267, NY, INPA

J.M. Pires, 6397, NY, INPA

Malme, 2033b, S (S04-167), S (S-R-7020), **Typus**

REFERENCE

Brittonia 2 (5): 496. 1938.

Rodrigues, W.A. Acta Amazonica 10(1):Supl., p.67-68. 1980

Viola marleneae W.A.Rodrigues

DESCRIPTION

Leaf: petiole canaliculate; texture coriaceous; abaxial surface puberulent; hair when present dendritic; blade elliptic/oblong/ovate; apex acuminate; base rounded; secondary veins 10 - 25 per side. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore shorter than anther; anther 3/distally divergent; perianth cleft to the half. **Fruit:** shape unknown; indumentum unknown. **Seed:** aril unknown; shape unknown.

Life Form

Shrub, Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Amazonas)

HERBARIUM MATERIAL

M.F. Silva, 753, INPA

REFERENCE

Acta Amazonica 7(4): 467. 1977.

Ortografia corrigida: 'V. marlenei'

Virola michelii Heckel

Has as synonym

Virola melinonii Benoist

DESCRIPTION

Leaf: petiole slightly canaliculate/canaliculate; **texture** chartaceous; **abaxial surface** pubescent; **hair when present** sessile stellate; **blade** elliptic/oblong-elliptic; **apex** cuspidate/acute; **base** attenuate; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** racemose/fasciculate raceme. **Flower:** **androphore** longer than anther; **anther** 3/completely connate; **perianth** cleft to the base. **Fruit:** **shape** ellipsoid; **indumentum** minute. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

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

Northeast (Maranhão)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

J.M. Pires, 7737, INPA

W.W. Thomas, 5215, INPA

M.A. Freitas, 916, INPA

W.A. Rodrigues, 2999, INPA

Virola minutiflora Ducke

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** chartaceous; **abaxial surface** puberulent; **hair when present** sessile stellate/stipitate stellate; **blade** oblong-elliptic/oblong; **apex** acute; **base** rounded/subcordate; **secondary veins** 20 - 35 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** of the equal length or longer than anther; **anther** 3/completely connate; **perianth** cleft to the base. **Fruit:** **shape** ovoid/ellipsoid; **indumentum** absent. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution


Confirmed occurrences

North (Acre, Amazonas, Pará, Rondônia)

HERBARIUM MATERIAL

W.A. Rodrigues, 9265, INPA

A. Ducke, s.n., INPA

A. Ducke, 24559, K,  (K000575149), RB, **Typus**

REFERENCE

Journ. Wash. Acad. Sc. 1936 26: 259.1936

Acta amazonica 10 (1). Supl.: 73-74. 1980

Virola mollissima (Poepp. ex A.DC.) Warb.

Has as synonym

basionym *Myristica mollissima* Poepp. ex A.DC.

DESCRIPTION

Leaf: **petiole** slightly canaliculate; **texture** coriaceous/chartaceous; **abaxial surface** pubescent; **hair when present** dendritic/dendritic stellate; **blade** elliptic/oblong-elliptic; **apex** acute; **base** cordate; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** shorter than anther; **anther** 3/completely connate; **perianth** cleft to the half/cleft to the base. **Fruit:** **shape** globose/ovoid; **indumentum** velutinous. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Riverine Forest and/or Gallery Forest, Terra Firme Forest

Geographic Distribution

Confirmed occurrences

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

Central-west (Mato Grosso)

HERBARIUM MATERIAL

G.T. Prance, 8950, US, R, NY, INPA, GH

A. Ducke, 1775, R, NY, INPA, US, GH

C. Ferreira, 10493, US, R, NY, INPA, GH

REFERENCE

Nov. Act. Nat. Cur. 68: 167. 1897

Acta Biol. Paranaense 31 (1,2,3,4): 74. 2002

Virola multicosata Ducke

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** chartaceous; **abaxial surface** glabrescent; **hair when present** sessile stellate/stipitate stellate; **blade** elliptic/oblong-elliptic; **apex** acuminate/acute; **base** rounded/subcordate; **secondary veins** more than 40. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** of the equal length or longer than anther; **anther** 3; **perianth** cleft to the half/cleft to the base. **Fruit:** **shape** ovoid/ellipsoid; **indumentum** absent. **Seed:** **aril** pink; **shape** ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution


Confirmed occurrences

North (Acre, Amazonas, Pará, Rondônia)

HERBARIUM MATERIAL

A. Ducke, 15257, RB, 24972,  (RB00541832), MG (MG015257), **Typus**

W. A. Rodrigues, 8465, NY,  (NY1595180), Amazonas

C. A. Cid Ferreira, 8358, NY,  (NY1595182), Amazonas

REFERENCE

Journ. Wash. Acad. Sc. 26: 261.1936.

Virola multinervia Ducke

DESCRIPTION

Leaf: petiole canaliculate; texture coriaceous; abaxial surface puberulent; hair when present dendritic; blade lanceolate/ovate; apex cuspidate/acute; base rounded/subcordate; secondary veins more than 40. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore of the equal length or longer than anther; anther 3/completely connate; perianth cleft to the base. **Fruit:** shape ellipsoid/obovoid; indumentum pilose. **Seed:** aril red; shape ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences



North (Acre, Amazonas, Pará, Rondônia)

HERBARIUM MATERIAL

R.E. Schultes, 26151a, NY, UPCB

B.A. Krukoff, 8847, NY, UPCB

M. Silveira, 865, NY, UPCB

A. Ducke, 24555, K, 24555,  (K000575142), RB, 24555,  (RB00541833), **Typus**

REFERENCE

Journ. Wash. Acad. Sc. 1936 26: 261.

Acta Amazonica 10 (1). Supl.: 77-80. 1980

Virola obovata Ducke

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** coriaceous; **abaxial surface** puberulent/glabrescent; **hair when present** sessile stellate; **blade** elliptic/obovate; **apex** cuspidate; **base** attenuate; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** shorter than anther; **anther** 3/(4 - 5)/completely connate; **perianth** cleft circa of the 1 third. **Fruit:** **shape** ellipsoid/obovoid; **indumentum** tomentose. **Seed:** **aril** red/pink; **shape** ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types







Inundated Forest (Igapó), Inundated Forest (Várzea)

Geographic Distribution

Confirmed occurrences

North (Amazonas)

HERBARIUM MATERIAL

A. Ducke, 1509, US,  (US00098910), US,  (US00098907), RB,  (RB00557115), NY,  (NY00066962), MG (MG017652), RB, 50695,  (RB00541836), A,  (A00039904), IAN, R, **Typus**

REFERENCE

Bol. Tecn. Inst. Agron. Norte Pard No. 4 12 (1945). No.

Acta Amazonica 10 (1) Supl.: 80-81. 1980.

Virola officinalis Warb.

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** chartaceous; **abaxial surface** puberulent; **hair when present** sessile stellate/stipitate stellate; **blade** oblong; **apex** cuspidate/acute; **base** subcordate; **secondary veins** 20 - 35 per side. **Inflorescence:** **peduncle** single; **type** racemose. **Flower:** **androphore** of the equal length or longer than anther; **anther** 3/completely connate; **perianth** cleft to the base. **Fruit:** **shape** unknown; **indumentum** unknown. **Seed:** **aril** unknown; **shape** unknown.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Atlantic Rainforest

Vegetation Types

Ombrophyllous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

Northeast (Bahia)

Southeast (Espírito Santo, Minas Gerais)

HERBARIUM MATERIAL

C.F.P. Martius, 650, K,  (K000575146), K,  (K000575147), P (P00631996), P (P00631997), **Typus**

Viola parvifolia Ducke

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** coriaceous; **abaxial surface** glabrescent; **hair when present** sessile stellate; **blade** elliptic; **apex** rounded; **base** rounded/obtuse; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** longer than anther; **anther** 3/completely connate; **perianth** cleft to the base. **Fruit:** **shape** unknown; **indumentum** absent. **Seed:** **aril** unknown; **shape** unknown.

COMMENTS

Species not seen yet, character states extracted from original publication.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types



Amazonian Campinarana

Geographic Distribution

Confirmed occurrences

North (Amazonas)

HERBARIUM MATERIAL

A. Ducke, s/n, P (P00631995), RB,  (RB00541838), K,  (K000575157), RB, 24553, **Typus**

REFERENCE

Journ. Wash. Acad. Sc. 26: 264. 1936

Virola pavonis (A.DC.) A.C.Sm.

Has as synonym

basionym *Myristica pavonis* A.DC.

DESCRIPTION

Leaf: **petiole** canaliculate; **texture** coriaceous/chartaceous; **abaxial surface** pubescent/glabrescent; **hair when present** sessile stellate/stipitate stellate; **blade** oblong-elliptic/obovate; **apex** acuminate/acute; **base** attenuate/obtuse; **secondary veins** 20 - 35 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** of the equal length or longer than anther; **anther** 3; **perianth** cleft to the half/cleft to the base. **Fruit:** **shape** ellipsoid; **indumentum** absent. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Amazonian Campinarana, Terra Firme Forest, Inundated Forest (Várzea)

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas, Rondônia)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

A. Ducke, 1059, IAN (IAN010602), INPA, NY

C. Ferreira, 10653, NY, INPA

REFERENCE

Brittonia. 2: 504 (1938). 2: 504 (1937)

Acta Amazonica 10(1). Supl.: 87-90

Virola peruviana (A.DC.) Warb.

This treatment is composed of the following taxa: *Virola peruviana*, .

Has as synonym

basionym *Myristica peruviana* A.DC.

DESCRIPTION

Leaf: **petiole** slightly canaliculate; **texture** chartaceous; **abaxial surface** puberulent/glabrescent; **hair when present** sessile stellate/dendritic stellate; **blade** oblong/lanceolate; **apex** cuspidate; **base** cordate/rounded/obtuse; **secondary veins** 20 - 35 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** shorter than anther; **anther** 3/(4 - 5)/completely connate; **perianth** cleft circa of the 1 third. **Fruit:** **shape** ovoid; **indumentum** absent. **Seed:** **aril** red/yellow; **shape** ovoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest, Inundated Forest (Várzea)

Geographic Distribution

Confirmed occurrences

North (Acre, Amazonas)

HERBARIUM MATERIAL

C. Figueiredo, 833, GH, INPA, M, NY

G.T. Prance, 7510, GH, INPA, M, NY

G.T. Prance, 8106, NY, M, INPA, GH

REFERENCE

Nov. Act. Nat. Cur. 68: 188. 1897.

Acta Amazonica 10 (1). Supl. : 90-91. 1980

Virola polyneura W.A.Rodrigues

DESCRIPTION

Leaf: petiole canaliculate; **texture** coriaceous/chartaceous; **abaxial surface** puberulent/glabrescent; **hair when present** stipitate stellate; **blade** elliptic/oblong-elliptic; **apex** acuminate/acute; **base** cordate/subcordate; **secondary veins** 20 - 35 per side. **Inflorescence:** **peduncle** single; **type** paniculate. **Flower:** **androphore** longer than anther; **anther** 3/completely connate; **perianth** cleft to the base. **Fruit:** **shape** ellipsoid/obovoid; **indumentum** absent. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Amazonas)

HERBARIUM MATERIAL

G.T. Prance, 14425, NY, INPA

REFERENCE

Acta Amazonica 7(4): 469 (1977)

Acta Amazonica 10 (1). Supl.: 91-93. 1980.

Virola rugulosa Warb.

DESCRIPTION

Leaf: petiole canaliculate; texture chartaceous; abaxial surface puberulent; hair when present sessile stellate/dendritic stellate; blade oblong; apex acuminate; base cordate/rounded; secondary veins 20 - 35 per side. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore of the equal length or longer than anther; anther 3/completely connate; perianth cleft to the base. **Fruit:** shape ovoid/ellipsoid; indumentum absent. **Seed:** aril red; shape ellipsoid/ovoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest

Geographic Distribution

Confirmed occurrences

North (Amazonas)

HERBARIUM MATERIAL

Monteiro, O.P., 1361, IAN

R.L. Fróes, 21473, IAN

REFERENCE

Nov. Act. Nat. Cur. 68: 227. 68. 227.

Virola sebifera Aubl.

This treatment is composed of the following taxa: *Virola sebifera*, .

Has as synonym

homotype *Myristica sebifera* (Aubl.) Sw.
 homotype *Palala sebifera* (Aubl.) Kuntze
 heterotypic *Myristica cordifolia* Mart. ex A.DC.
 heterotypic *Myristica fulva* King
 heterotypic *Myristica mocoa* A.DC.
 heterotypic *Myristica panamensis* Hemsl.
 heterotypic *Myristica sebifera* var. *cordifolia* A.DC.
 heterotypic *Myristica sebifera* var. *curvinervia* A.DC.
 heterotypic *Myristica virola* Raeusch.
 heterotypic *Palala mocoa* (A.DC.) Kuntze
 heterotypic *Virola boliviensis* Warb.
 heterotypic *Virola panamensis* (Hemsl.) Warb.
 heterotypic *Virola peruviana* var. *tomentosa* Warb.
 heterotypic *Virola sebifera* var. *curvinervia* Warb.
 heterotypic *Virola theiodora* (Spruce ex Benth.) Warb.
 heterotypic *Virola venezuelensis* Warb.
 heterotypic *Virola warburgii* Pittier

DESCRIPTION

Leaf: petiole slightly canaliculate; **texture** coriaceous; **abaxial surface** pubescent; **hair when present** sessile stellate/stipitate stellate/dendritic; **blade** lanceolate/ovate; **apex** acuminate; **base** cordate/rounded; **secondary veins** 10 - 25 per side. **Inflorescence:** peduncle single; **type** paniculate. **Flower:** androphore of the equal length or longer than anther/longer than anther; **anther** 3/(4 - 5)/(4 - 6)/completely connate; **perianth** cleft circa of the 1 third. **Fruit:** shape globose/ellipsoid; **indumentum** tomentose. **Seed:** aril yellow/orange; **shape** ellipsoid.

ADDITIONAL DESCRIPTION

Trees up to 35m tall, exsudate red, frequently buttressed, branches verticillate, tomentose when young. Petiole tomentose and slightly canaliculate, 2-5 mm width, 10-20 mm long. Leaves simple, alternate, distichous, coriaceous, margins entire; leaf blade oblong, elliptic or ovate, 16-47 cm x 6-16 cm; base cordate, truncate or rounded to obtuse; apex acute, acuminate or less often cuspidate; adaxial surface shiny and glabrous, abaxial surface matt and tomentose; hairs stipitate stellate and/or dendritic, persistent or lately caducous; venation pinnate, main vein prominent on both surfaces, secondary veins prominent abaxially, well-spaced, ca. 10-20 per side. Staminate inflorescence broadly paniculate, tomentose to glabrescent, up to 25 cm long, peduncle up to 8 cm until the first ramification; staminate flowers irregularly arranged in groups of 3 to 10, subsessile or with short pedicels of 1 to 3 mm; perianth fleshy, glabrous inside, connate up to 2/3 of its length, 3-lobed, lobes obtuse; androecium 0.9-2 mm, filament column on average 1/3 of anther length, anthers 3 (4-5), connate to apex or slightly divergent, apiculate. Pistillate inflorescences smaller than staminate ones, paniculate, tomentose to glabrescent, up to 8 cm long, peduncle up to 3 cm until first ramification; pistillate flowers single or in small groups of 2 to 5, subsessile or with very short but with thicker pedicels up to 0.2 cm; perianth fleshy, glabrous inside, connate up to 2/3 of its length, 3-lobed, lobes obtuse; ovary subglobose, tomentose, stigma sessile. Fruit subglobose or longitudinally ellipsoid, 1-2 cm x 0.7-1.5 cm, tomentose, becoming glabrescent towards the apex, hairs very short, dendritic; pericarp 0.5 -1 mm thick; aril red, laciniate to half or more of its length towards the fruit base.

Life Form

Shrub, Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest, Central Brazilian Savanna, Atlantic Rainforest

Vegetation Types

Cerrado (lato sensu), Riverine Forest and/or Gallery Forest, Inundated Forest (Igapó), Terra Firme Forest, Inundated Forest (Várzea), Seasonally Semideciduous Forest, Amazonian Savanna

Geographic DistributionConfirmed occurrences

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

Northeast (Bahia, Maranhão)

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

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

HERBARIUM MATERIAL

Gomes Jr., J.C., 311, RB

J.G. Kuhlmann, 814, RB

C. Ferreira, 10433, NY,  (NY00476713), RB

s.c., s.n., B (B -W 18587 -01 1)

REFERENCE

Pl. Gui. 2. 904. t. 345 (1775)

Acta Amazonica 10(1). Supl.: 94-100. 1980

Virola sessilis (A.DC.) Warb.

Has as synonym

basionym *Myristica sessilis* A.DC.

DESCRIPTION

Leaf: petiole reduced and inconspicuous; **texture** chartaceous; **abaxial surface** glabrescent; **hair when present** dendritic; **blade** elliptic/oblong-elliptic; **apex** acuminate; **base** subcordate/obtuse; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** fasciculate raceme. **Flower:** **androphore** of the equal length or longer than anther; **anther** 3; **perianth** cleft to the half. **Fruit:** **shape** ellipsoid; **indumentum** minute. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Shrub, Subshrub

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Amazon Rainforest, Central Brazilian Savanna

Vegetation Types

Cerrado (lato sensu)

Geographic Distribution

Confirmed occurrences

North (Rondônia)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

J.G. Kuhlmann, 1973, P

Silva Manso, A.L.P., 39, MO (MO100026), **Typus**

REFERENCE

Nov. Act. Nat. Cur. 68: 190. 1897.

Acta Amazonica 10(1): 100-101. 1980

Virola subsessilis (Benth.) Warb.

Has as synonym

basionym *Myristica subsessilis* Benth.

DESCRIPTION

Leaf: **petiole** reduced and inconspicuous; **texture** chartaceous; **abaxial surface** puberulent/glabrescent; **hair when present** sessile stellate; **blade** elliptic/oblong-elliptic; **apex** acuminate; **base** subcordate/obtuse; **secondary veins** 10 - 25 per side. **Inflorescence:** **peduncle** single; **type** fasciculate raceme. **Flower:** **androphore** longer than anther; **anther** 3/completely connate; **perianth** cleft circa of the 1 third. **Fruit:** **shape** ellipsoid; **indumentum** minute. **Seed:** **aril** red; **shape** ellipsoid.

Life Form

Shrub, Subshrub

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Central Brazilian Savanna

Vegetation Types

Cerrado (lato sensu)

Geographic Distribution

Confirmed occurrences

North (Tocantins)

Northeast (Bahia, Maranhão, Pernambuco, Piauí)

Central-west (Goiás)

HERBARIUM MATERIAL

G. Gardner, 2775, E,  (E00373434), BM, G, P, **Typus**

A.P. Duarte, 9498, G, P, BM

REFERENCE

Nov. Act. Nat. Cur. 68: 191. 1897.

Brittonia 2(5): 507-508. 1937

Virola surinamensis (Rol. ex Rottb.) Warb.

Has as synonym

basionym *Myristica surinamensis* Rol. ex Rottb.

heterotypic *Myristica gracilis* A.DC.

DESCRIPTION

Leaf: petiole canaliculate; texture coriaceous; abaxial surface puberulent; hair when present sessile stellate; blade oblong; apex acute; base rounded/subcordate/obtuse; secondary veins 10 - 25 per side. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore longer than anther; anther 3/completely connate; perianth cleft to the base. **Fruit:** shape ovoid; indumentum absent. **Seed:** aril red; shape ovoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Riverine Forest and/or Gallery Forest, Terra Firme Forest, Inundated Forest (Várzea)

Geographic Distribution

Confirmed occurrences

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

Northeast (Ceará, Maranhão, Piauí)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

A. Ducke, 1369, IAN (IAN010830)

Rodrigues, W.A., 747, UPCB, UFG

Pedrosa, A.L., 366, UFG, UPCB

REFERENCE

Nov. Act. Nat. Cur. 68: 222. 1897

Virola urbaniana Warb.

DESCRIPTION

Leaf: petiole canaliculate; texture chartaceous; abaxial surface pubescent; hair when present dendritic/dendritic stellate; blade oblong; apex cuspidate/acute; base subcordate; secondary veins 20 - 35 per side. **Inflorescence:** peduncle single; type paniculate. **Flower:** androphore shorter than anther; anther 3/distally divergent; perianth cleft to the base. **Fruit:** shape globose/ellipsoid; indumentum absent. **Seed:** aril red; shape globose.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Central Brazilian Savanna

Vegetation Types

Cerrado (lato sensu), Riverine Forest and/or Gallery Forest, Palm Grove

Geographic Distribution


Confirmed occurrences

North (Tocantins)


Northeast (Bahia, Maranhão)

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

HERBARIUM MATERIAL

A.F.M. Glaziou, 22036, P (P00631976), K,  (K000575122), **Typus**

J.A. Rizzo, 5527, UPCB, INPA

B.M.T. Walter, 4957, RB, 397421,  (RB00234037)

Virola venosa (Benth.) Warb.

Has as synonym

basionym *Myristica venosa* Benth.

DESCRIPTION

Leaf: petiole canaliculate; texture chartaceous; abaxial surface puberulent/glabrescent; hair when present sessile stellate; blade elliptic/oblong-elliptic/oblong/lanceolate/ovate/obovate; apex acuminate/cuspidate; base attenuate/obtuse; secondary veins 10 - 25 per side. **Inflorescence:** peduncle single; type paniculate/fasciculate raceme. **Flower:** androphore longer than anther; anther 3/completely connate; perianth cleft circa of the 1 third. **Fruit:** shape ellipsoid; indumentum tomentose. **Seed:** aril red; shape ellipsoid.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Not endemic to Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest



Geographic Distribution

Confirmed occurrences

North (Amazonas, Amapá, Pará, Rondônia)

Central-west (Mato Grosso)

HERBARIUM MATERIAL

R. Spruce, s.n., GH,  (GH00039830), P (P00631973), P (P00631974), NY,  (NY00066878), Amazonas, **Typus**

Rodrigues, W.A., 8807, IAN

G.A. Black, 49-8409, IAN

REFERENCE

Nov. Act. Nat. Cur. 68: 224lxviii. 224

Acta Amazonica 10(1). Supl.: 108-111. 1980