Virola Aubl.

Sylvia Mota de Oliveira

Museu de História Natural de Leiden; sylvia.motadeoliveira@naturalis.nl


HOW TO CITE


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. Staminately flowers recorded more often than pistillate ones; stamens fused to a column (androphone); 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, unicarpellar 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 laciniate or entire; endosperm ruminate.

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 Distribution**

**Confirmed 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
2. Leaf blade on abaxial surface tomentose, pubescent or puberulent, hairs sessile- or stipitate-stellate or/ and dendritic, persistent at maturity.............................................................. 3
3. Fruits glabrous or becoming glabrescent when ripe.............................. .................6
4. Leaf blade on adaxial surface pilose................................................ V. decorticans
5. Perenifolius….................................................................. V. multinervia
6. Fruits tomentose or pilose, hairs dendritic and persistent through fruit ripening......................... 4
7. Leaf length varying between 5-18 cm.......................................................... 8
8. Leaf blade on abaxial surface with sessile stellate hairs, glaucous......................... V. flexuosa
9. Trees with butresses, bark smooth.............................................................. V. duckei
10. Leaves membranous.............................................................................. 11
11. Secondary veins more than 40 per side..............................................V. multicostata
12. Leaf blade on abaxial surface tomentose, pubescent or puberulent, hairs sessile- or stipitate-stellate or/ and dendritic, persistent at maturity..............................................................12
13. Fruits tomentose or pilose, hairs dendritic and persistent through fruit ripening.........................14
14. Androphore much shorter than anthers (1/2 to 1/3)......................................... 15
15. Androphore almost the same length as anthers..............................................V. lorentensis
16. Flowers white, androphore ca. twice the length of the anthers...............V. albidiiflora
17. Fruits with or without indumentum, glabrescent when ripe..............................14
18. Flowers yellow or ferruginous, androphore slightly longer or shorter than anthers......................7
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 stamineate flowers cleft to 1/3 of its length........................................V. sebifera

16. Perianth of stamineate 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 stamineate flowers cleft to 1/3 of its length........................................19

18. Perianth of stamineate 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 ovate 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, stamineate flowers cleft to 1/3 of its length.......V. elongata

22. Leaves coriaceous to chartaceous, stamineate 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. urvaniana

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 stamineate flowers cleft to 2/3 of its length .........................................V. parvifolia

28. Perianth of stamineate 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 stamineate flowers cleft to half of its length.....V. sessilis

30. Leaf abaxial surface covered by sessile stellate hairs; perianth of stamineate 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


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**
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 canalicate; 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. Flora de São Paulo. v.2: 210-211. 2002
**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. Frões, 31005, NY, ☑️ (NY01480448), IAN

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

**REFERENCE**

**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 ferrugineous punctuations (glands at the base of the hairs), hairs sparse, 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; stamine 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, 5, 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 paniculate. **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 25c m de diâmetro a altura do peito; raminhos novos delgados, mais ou menos achatados lateralmente, com indumento densa, uniforme e microscópicamente 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, rígidos, 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 junt o às margens, levemente impressas ou promíduas na página superior, promíduas na inferior; vénulas reticuladas promíduas ou obscuras na página superior e indistintas geralmente na inferior. Inflorescência masculina e feminina não vistas, exceto uma inflorescência muito jovem e alguns resto s de flores femininas ocasionalmente soltas, encontradas agarradas à exsicata. Flores robustamente pediceladas; ovário subgloboso, intensa 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, amarelê-ferrugíneos, pedicelados (pedicelos grossos de mais ou menos 3-4mm de diâmetro, 3-4mm de comprimento), subglobosos, 7-17mm de diâmetro, arredondado s e curtamente estipitados na base (estipes grossos de 1-2mm de comprimento), arredondados no ápice, cari nados em torno da sutura superior, diminutamente ferrugíneo-puberulento s ou séssil-estrelados, glabrescentes; pericarp de 1-3mm de espessura; sementes não vistas.

COMMENTS


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

**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

**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**

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, Typus (K000575153), Typus

REFERENCE
**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** *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 reddish 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. Stamine 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; stamine 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 stamine 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, laciniate 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


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**
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. Fröes, 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**

**Virola lorentensis 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 paniculate. 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**

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.

Virola 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


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


Acta amazonica 10 (1). Suppl.: 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**

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

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


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


REFERENCE


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
**Virola 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 1/3. 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

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


**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**

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 paranaensis 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 canalicate; 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 canalicate, 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. Stamine inflorescence broadly paniculate, tomentose to glabrescent, up to 25 cm long, peduncle up to 8 cm until the first ramification; stamine flowers irregularly arranged in groups of 3 to 10, subsessile or with short pedicels of 1 to 3 mm; perianth fleshy, glabrous inside, connate 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 (?5), connate to apex or slightly divergent, apiculate. Pistillate inflorescences smaller than stamine 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, sub sessile or with very short but with thicker pedicels of 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, luciniate 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 Distribution**
Confirmed 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, 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**


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/oblung-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, G (E00373434), BM, G, P, Typus
A.P. Duarte, 9498, G, P, BM

REFERENCE


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

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/oblung-elliptic/oblong/lanceolate/obovate/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
