

FLORA DA RESERVA DUCKE, AMAZONAS, BRASIL: TRIURIDACEAE

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Triuridaceae Gardner, Trans. Linn. Soc. London 19: 160. 1843.

Maas, P. J. M. & T. RübSamen. 1986. Triuridaceae. Fl. Neotrop. Monograph 40: 1-55.

Saprophytic, small **herbs** with rhizomes. **Leaves** alternate, simple, very small and scale-like. **Inflorescence** a terminal, bracteate raceme. **Flowers** unisexual (plants monoecious or dioecious) or bisexual. Tepals 3-6, basally connate, apex sometimes with a dense tuft of hairs or with a long tail. Stamens 2-6, subsessile, free or embedded in a conical androphore. Carpels free, many, style lateral or terminal, ovule 1 per carpel, basal. **Fruit** apocarpous, consisting of many, free, indehiscent (achenes) or dehiscent (follicles) fruitlets. Seed 1 per carpel.

A saprophytic family, represented in the Neotropics by five genera and 15 species. Occurring throughout the lowland regions. The family is represented by 1 genus, *Sciaphila*, with four species in the Reserva Ducke. The genus *Triuris* is expected to be found in the Reserva Ducke, as it is known from all over tropical South America. It is characterized by flowers with 3 tepals which have very long tails. This family can be distinguished from the other saprophytic families (Burmanniaceae, Gentianaceae, and Orchidaceae) by its alternate leaves and its many, free carpels.

Key to the genera of Triuridaceae of Reserva Ducke

1. Tepals 3, with long, tail-like appendages; stamens implanted in a distinct conical androphore; plants dioecious; flowers unisexual 2. *Triuris*
1. Tepals 4-6, without such appendages; stamens implanted in a strongly reduced, flat androphore; plants monoecious; flowers unisexual or bisexual 1 *Sciaphila*

1. *Sciaphila*

Sciaphila Blume, Bijdr. Fl. Ned. 514. 1825.

Saprophytic **herbs**, roots often hairy. Stems terete, simple or rarely branched. **Inflorescence** a 10-50-flowered raceme. **Flowers** unisexual and monoecious or bisexual. Tepals 4-6, inner side mostly papillate, apex often with a dense tuft of hairs. Staminate flowers up to 50, mostly concentrated

in the apical part of the inflorescence. Stamens 2-6, free, filaments up to 1 mm long. Pistillate flowers up to 10, mostly concentrated in the lower part of the inflorescence. Carpels 10-80. Style lateral. **Fruit** consisting of many, free, dehiscent fruitlets (follicles).

A pantropical genus of c. 50 species, of which seven occur in the Neotropic. Four species occur in Reserva Ducke.

Key to the species of *Sciaphila* of Reserva Ducke

1. Pedicels up to 3 mm long; plants completely red; flowers bisexual.
 2. Tepals 4; pedicels 0.5-1 mm long, horizontally patent 4. *S. rubra*
 2. Tepals 6; pedicels c. 2 mm long, horizontally patent, apically reflexed 2. *S. picta*
1. Pedicels 7-25 mm long; plants either whitish or purplish brown; flowers unisexual 3
 3. Plants 30-80 cm high, often found on termites' nests; pedicels horizontally patent
..... 3. *S. purpurea*
 3. Plants 15-25 cm high; pedicels apically reflexed 1. *S. oligantha*

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1.1 *Sciaphila oligantha* Maas, Acta Bot. Neerl. 30: 139. f. 1. 1981; Maas & Rübsamen, Fl. Neotrop. 40: 27. f. 9. 1986.

Herbs, 15-25 cm high. Stems, leaves, and bracts white. **Leaves** 3-4 mm long. Inflorescence 10-15-flowered, 5-10 cm long, 2-3.5 cm wide. Bracts 2.5-5 mm long. Pedicels horizontally patent, 7-18 mm long, apically reflexed. **Flowers** unisexual, monoecious, white, the lower 2-6 pistillate, the upper 5-9 staminate. Staminate flowers 3-4 mm in diam. Tepals 4-6, triangular-ovate, 1.5-2 mm long, reflexed. Stamens 3, filaments to 0.5 mm long. Pistillate flowers c. 6 mm in diam. Tepals 5 or 6, narrowly triangular-ovate, c. 2.5 mm long, reflexed, densely papillate. Carpels c. 50. **Fruitlets** red to purple, obovoid, 1.5-2 mm long. Seeds (narrowly) ellipsoid.

Only known from the Reserva Ducke.

In non-inundated forest, on sandy and clayey soil.

Flowering and fruiting from May to December.

18.X.1995 (fl, fr) Costa, M. A. S. 392 (INPA); 18.X.1995 (fl, fr) Costa, M. A. S. & Assunção, P. A. C. L. 396 (INPA U); 3.V.1988 (fl, fr) Nelson, B. L. 1606 (INPA); 19.IX.1987 (fl) Pruski, J. F. 3252 (INPA); 4.VI.1995 (fl, fr) Sothers, C. A. 487 (INPA); Costa, M. A. S. & Assunção, P. A. C. L. 489 (U), Souza, M. A. D. de 348 (INPA), Vicentini, A. & Hopkins, M. J. G. 650 (INPA).

Sciaphila oligantha is a whitish saprophyte characterized by flowers on long, apically reflexed pedicels.

1.2 *Sciaphila picta* Miers, Trans. Linn. Soc. London 21: 48. t. 6, f. 13-18. 1852; Maas & Rübsamen, Fl. Neotrop. 40: 22. f. 6. 1986.

Herbs, c. 15 cm high. Stems, leaves, bracts, and pedicels red. **Leaves** c. 2 mm long. **Inflorescence** c. 25-flowered, c. 6 cm long, less than 1 cm wide. Bracts c. 1 mm long. Pedicels horizontally patent, c. 2 mm long, apically reflexed. **Flowers** bisexual, red, c. 1 mm in diam. Tepals 6, triangular, c. 1 mm long, reflexed, apical part with a dense tuft of

hairs. Stamens 6, sessile. Carpels 10-15. Style exceeding the ovary. **Fruitlets** red, obovoid, c. 1 mm long. Seeds obovoid.

Central America, Colombia, and the Brazilian state of Amazonas.

In non-inundated forest, on sandy soil.

Flowering and fruiting in October.

26.X.1995 (fl, fr) Costa M. A. S. da 416 (INPA).

Sciaphila picta is a completely red saprophyte with flowers on reflexed pedicels. The collection by Costa is the first record for Brazil!

1.3 *Sciaphila purpurea* Benth., Hooker's J. Bot. Kew Gard. Misc. 7: 11. 1855; Maas & Rübsamen, Fl. Neotrop. 40: 35. f. 14. 1986.

Herbs, 30-80 cm high. Stems, leaves, bracts, and pedicels purplish brown. Leaves 2-7 mm long. **Inflorescence** 20-50-flowered, 5-25 cm long, 1.5-3 cm wide. Bracts 2-7 mm long. Pedicels horizontally patent, 13-25 mm long. **Flowers** unisexual, monoecious, purplish, the lower ones pistillate, the upper ones staminate. Flowers 3-5 mm in diam. Tepals 6, narrowly triangular, 1.5-4 mm long, reflexed, apical part with a dense tuft of hairs. Stamens 3, inserted at the apex of a cylindrical androphore. Carpels many. Style equalling the ovary. **Fruitlets** brown to purplish, obovoid, 2-3 mm long. Seeds more or less bean-shaped.

Tropical South America.

In non-inundated forest, often growing on termites' nests, mostly on sandy soil.

Flowering and fruiting all year through.

30.I.1995 (fl) Assunção, P. A. C. L. 176 (INPA); 20.IX.1995 (fl, fr) Costa, M. A. S. 362 (INPA); 10.IV.1975 (fl, fr) Prance, G. T. & Ramos, J. F. 23367 (INPA); 26.VIII.1957 (fr) Rodrigues, W. A. 555 (INPA); 26.IX.1961 (fl) Rodrigues, W. A. & J. Lima 2525 (INPA); 23.X.1963 (fl) Rodrigues, W. A. 5517 (INPA); 31.III.1995 Sothers, C. A. 390 (INPA); 4.VI.1995 Sothers, C. A. 487 (INPA); 31.X.1995 Souza, A. de 127 (INPA).

Sciaphila purpurea is the largest saprophytic plant occurring at the Reserva Ducke, it is purplish brown coloured; it sometimes grows on termites' nests.

1.4 *Sciaphila rubra* Maas, Acta Bot. Neerl. 28: 89. f. 7. 1979; Maas & Rübsamen, Fl. Neotrop. 40: 25. f. 7. 1986.

Herbs, 5-10 cm high. Stems, leaves, and bracts reddish. **Leaves** 3.5-5 mm long. **Inflorescence** 10-17-flowered, 2-2.5 cm long, c. 0.5 cm wide. Bracts implanted at the top of the pedicel, to 5 mm long, striped dark brownish. Pedicels patent, 0.5-1 mm long. **Flowers** bisexual, red, 5-6 mm in diam. Tepals 4, with an irregular pattern of brownish and white longitudinal lines, deltate, c. 2 mm long, horizontally patent, glabrous. Stamens 2, filaments c. 1 mm long. Carpels 10-25. **Fruitlets** red, obovoid, 1-1.5 mm long. Seeds pale brown, ovoid.

Occurring in the surroundings of Manaus (Walter Egler Reserve and Reserva Ducke). Also found in the Venezuelan state of Amazonas.

In non-inundated forest, on sandy soil.

Flowering and fruiting from July to October.

10.VII.1995 (fl, fr) *Costa, M.A.S. da 311A* (INPA); 31.VII.1995 (fl, fr) *Costa, M.A.S. da 328B* (INPA); 18.X.1995 (fl, fr) *Costa, M.A.S. da 398* (INPA); *Ehrendorfer 74921-2/3c* (WU); 29.IX.1977 (fl) *Maas, P. J. M. et al. 3073* (U); 14.IX.1971 (fl) *Prance, G. T. et al. 14746* (INPA NYU); 8.VIII.1973 (fl), *Prance, G. T. et al. 18736* (holotype, INPA; isotypes, K MO NY RB U VEN); *Pinheiro, A. & Hopkins, M. J. G. 03* (INPA), *Vicentini, & Hopkins, M. J. G. 651* (INPA), *Vicentini, A. & Assunção, P. A. C. L. 679* (INPA).

Sciaphila rubra is a completely reddish plant, characterized by 4-merous, shortly pedicellate flowers.

2. *Triuris*

Triuris Miers, Proc. Linn. Soc. Lond. 1: 96. 1841.

A genus consisting of three species, occurring in tropical Central and South America from Guatemala to SE Brazil. One specimen of *Triuris* has been collected in the Reserva Ducke thusfar.

2.1 *Triuris hyalina* Miers, Trans. Linn. Soc. London 19: 79. t. 19. 1845; Maas & Rübsamen, Fl. Neotrop. 40: 49. f. 19. 1986.

Saprophytic **herbs**, 5-10 cm high, white throughout, roots glabrous to sparsely hairy. **Leaves** 1 or 2 per stam, 0.5-2 mm long. **Inflorescence** a 1-4-flowered raceme. Plant dioecious, flowers unisexual. Tepals 3, triangular to deltate, 1.5-3 mm long, apex with a tail-like appendage 3-12 mm long. Androphore deltoid, fleshy, 1-1.5 mm high. Stamens 3, filaments absent, inserted in base of androphore. Carpels many. Style terminal. **Fruit** consisting of many free, indehiscent fruitlets (achenes), 0.5-1 mm long. Seeds globose to ellipsoid.

From Central America (Guatemala) to Southeastern Brazil.

In non-inundated forest, on sandy soil.

Flowering and fruiting in April.

16.IV.1996 (fl, fr) *Costa, M. A. S. da & Assunção, P. A. C. L. 487* (INPA U).

