

Tachia is a genus of tropical American rainforest shrubs and small trees that are commonly used as medicines in the Amazon, mainly against malaria. They belong to the tribe Helieae in the gentian family, the Gentianaceae. There are 13 known species, some of which are quite rare.

***Tachia* characteristics:**

Shrubs or trees without hairs, sometimes with sticky resin at the base of leaves and branches; branches often hollow. Leaves opposite, entire, without stipules. Flowers 1-2 together in leaf axils, not stalked. Calyx fused at base, with 5 lobes. Corolla white, yellow, or green, funnel- or salvershaped, with 5 lobes. Stamens 5, inserted in the corolla tube. Gynoecium superior, formed from 2 carpels; style 1, long; stigma with two small lobes. Fruit a woody capsule, splitting in two small parts from the top; seeds small and dark.



Tachia parviflora



Tachia schomburgkiana



Tachia occidentalis



Tachia guianensis

Common names of *Tachia*

- T. guianensis* – Guianan tuchia
- T. gracilis* – gracile tuchia
- T. grandiflora* – large-flowered tuchia
- T. grandifolia* – large-leaved tuchia
- T. lancisepala* – sharp-sepaled tuchia
- T. longipes* – long-leaved tuchia
- T. loretensis* – Loretian tuchia
- T. occidentalis* – western tuchia
- T. orientalis* – eastern tuchia
- T. parviflora* – small-flowered tuchia
- T. schomburgkiana* – Schomburgk's tuchia
- T. siwertii* – Siwert's tuchia
- T. smithii* – Smith's tuchia

Glossary

leaf venation:

- pinnate* - with many side veins, like a feather
- arcuate* - with few bending side veins

plant parts:

- calyx* – all sepals, fused at their base in *Tachia*
- corolla* – all petals, fused in the lower part in *Tachia*
- lobe* – the upper unfused parts of calyx or corolla
- tree* – with one main stem
- shrub* – with many stems from the base
- petiole* – leaf stalk
- keel* – distinct raised area, like a boat keel
- ridge* – an indistinct raised area
- wing* – a distinct narrow, thin raised area

shapes:

- acute* – sharp tip
- acuminate* – long, sharp tip

References and information:

Cobb, L. & P. J. M. Maas. 1998. A new species of *Tachia* (Gentianaceae) from Suriname. *Brittonia* 50: 11-18.

Gentian Research Network, *Tachia* home page (<http://www.rci.rutgers.edu/~struwe/gentnet/genera/genTach.htm>), images (<http://www.rci.rutgers.edu/~struwe/gentnet/genera/genTachimg.htm>)

Kinkade, M. P. & L. Struwe. Revision of neotropical *Tachia* (Gentianaceae: Helieae). *Systematic Botany* (submitted)

Maguire, B. & R. E. Weaver, Jr. 1975. The neotropical genus *Tachia* (Gentianaceae). *J. Arnold. Arb.* 56: 103-125.

Struwe, L. & V. A. Albert (eds.). 2002. *Gentianaceae: Systematics and Natural History*, Cambridge University Press, Cambridge.

Struwe, L., M. P. Kinkade, & P. J. M. Maas. Two new Brazilian species of *Tachia* (Gentianaceae: Helieae). *Blumea* (in press).

Contact info:

Lena Struwe, Dept. of Ecology, Evolution, and Natural Resources, Rutgers University, 59 Dudley Road, New Brunswick, NJ 08901, struwe@aesop.rutgers.edu

Adrian M. Pohlit, Coordenação de Pesquisas em Produtos Naturais-CPPN, Instituto Nacional de Pesquisas da Amazônia-INPA, Avenida André Araújo 2936, Bairro, Petrópolis, 69083-000 Manaus, Amazonas, Brazil, ampohlit@inpa.gov.br

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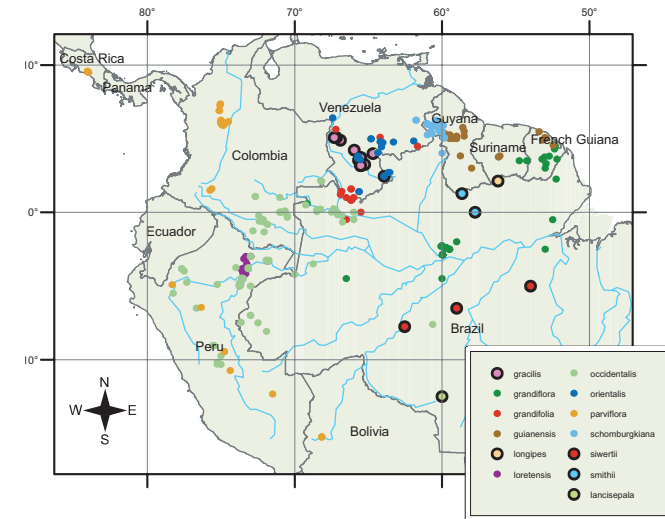
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TACHIA Field Guide

by Wendy Peters, Matthew P. Kinkade, Adrian M. Pohlit, & Lena Struwe



Tachia grandiflora



Rutgers University – Cook College,
New Brunswick, NJ, USA



Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus, Amazonas, Brazil



Paul Maas

Carol Gracie

Tachia Key to All Species

1. Stems round in cross-section, not winged.



4. Leaves with more than 5 pairs of side veins, usually straight (pinnate).



4. Leaves with 1-2 pairs of strongly bent side veins (arcuate).



1. Stems square in cross-section, with wings.



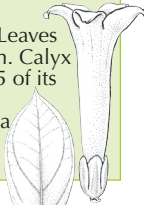
2. Calyx lobe long and narrow with a long, sharp apex; leaves with more than 3 pairs of pinnate, side veins; petiole 2-7 mm long.



2. Calyx lobe short and round with acute apex; leaf venation arcuate with 2-3 pairs of side veins; petiole 30-50 mm long.

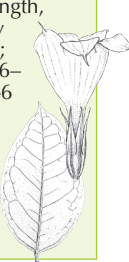
Tachia longipes

Herb, up to 1 m high. Leaves 170-310 x 70-115 mm. Calyx 13 x 4 mm, divided 4/5 of its length, ridged; lobes 11-12 mm long. Corolla 50 mm long, yellow. (Suriname, rare)



Tachia lancisepala

3. Shrub, up to 2 m high. Leaves 130-135 x 68-76 mm; petiole 7 mm long. Calyx 36-40 x 7 mm, divided down 3/4 of its length, strongly winged; lobes 26-30 x 5-6 mm. Corolla 70 mm long, yellow. (Brazil, rare)



Tachia siwertii

3. Liana or small tree, up to 2 m high. Leaves 130-210 x 48-72 mm; venation pinnate. Calyx 31-38 x 7-10 mm, divided 3/5 of its length, strongly winged except on lobes, keels woody; lobes 25-27 x 4-5 mm long, oblong. Corolla 85-95 mm long, white. (Brazil, rare)



5. Calyx lobe not strongly winged with a blunt apex.



5. Calyx lobe strongly winged with long-acuminate apex.

Tachia schomburgkiana

Shrub or small tree, 1.5-4 m high. Leaves 65-190 x 30-85 mm; petiole 10-15 mm long. Calyx 26-40 x 7-11 mm, divided 1/2 of its length, yellowish, lobes 12-20 x 3-4 mm. Corolla 65-74 mm long, yellow to yellowish green. (Brazil, Guyana, Venezuela)



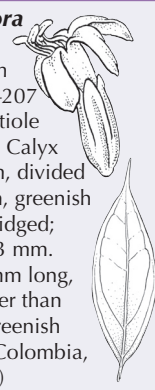
Tachia gracilis

6. Shrub, 1-2 m high. Leaves 85-162 x 27-63 mm; petiole 6-14 mm long. Calyx 13-19 x 5-11 mm, divided 1/2 of its length, yellow, slightly keeled; lobes 7-8 x 2-3 mm. Corolla 50-62 mm long, 3 times longer than calyx, yellow. (Venezuela)



Tachia parviflora

6. Shrub or small tree, 1-5 m high. Leaves 65-207 x 30-85 mm; petiole 10-25 mm long. Calyx 10-15 x 4-8 mm, divided 9/10 of its length, greenish yellow, slightly ridged; lobes 8-11 x 2-3 mm. Corolla 14-24 mm long, 1.5-2 times longer than calyx white to greenish white. (Bolivia, Colombia, Costa Rica, Peru)



Tachia guianensis

Shrub or small tree, up to 5 m high. Leaves 88-220 x 39-95 mm; many nearly invisible pairs of side veins; petiole 5-20 mm long. Calyx orange divided 1/2 of its length; lobes 8-14 x 3-4 mm, with acute apex. Corolla 60-77 mm long, yellow. (French Guiana, Guyana, Surinam)



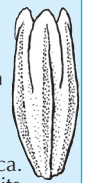
7. Calyx 8-26 mm long, keeled or winged.



7. Calyx 26-40 mm long, of its length, smooth, not winged.

8. Calyx narrowly winged, divided no more than 1/3 of its length.

8. Calyx not winged, but often with 5 keels or ridges, divided ca. 1/2-2/3 of its length.



Tachia occidentalis

Shrub, 1-4 m high. Leaves 90-240 x 37-77 mm; petiole 6-17 mm long. Calyx 14-25 x 6-9 mm, yellowish green to green; lobes 5-10 x 2-4 mm, with acute apex. Corolla 64-77 mm long, green to yellowish green. (Brazil, Colombia, Peru)

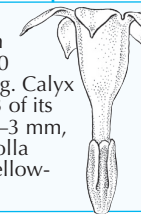


9. Leaves widest above middle, 220-350 mm long.

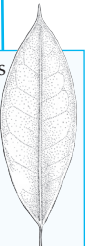


Tachia grandifolia

Shrub or small tree, 1.5-4 m high, thick branches (over 10 mm); petiole 20-40 mm long. Calyx 8-14 x 4-5 mm, divided 2/3 of its length, green; lobes 4-8 x 2-3 mm, ovate, with acute apex. Corolla 36-40 mm long, green or yellow-green. (Brazil, Venezuela)



9. Leaves widest in the middle 80-220 (-230) mm long.



10. Corolla 65-81 mm long; leaves thin when dry.

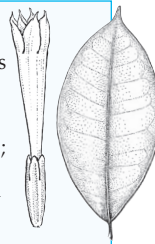
Tachia grandiflora

11. Shrub, up to 4 m high. Leaves 80-190 x 30-73 mm; petiole 7-15 mm long. Calyx 17-25 x 7-9 mm, yellowish green to green; lobes 11-14 x 3-6 mm, with acute apex. Corolla 67-81 mm long, cream, yellow, to orange (lobes cream-white). (Brazil, French Guiana, Surinam)



Tachia smithii

11. Small tree or shrub, up to 3-4 m high. Leaves 103-181 x 32-72 mm; petiole 8-14 mm long. Calyx 17-25 x 6 mm, yellowish green to green; lobes 6-9 x 3-4 mm, with acute apex. Corolla 65-73 mm long, white. (Brazil, rare)



10. Corolla 42-59 mm long; leaves leathery when dry.

Tachia orientalis

12. Herb or small tree, 1.5-3.0 m high. Leaves 115-230 x 38-96 mm; petiole 12-26 mm long. Calyx 10-18 x 3-5 mm, green; lobes 4-10 x 2-3 mm, with blunt apex. Corolla 42-52 mm long, green. (Venezuela)



Tachia lorentensis

12. Shrub, up to 1-3 m high. Leaves 115-207 x 35-92 mm; petiole 10-25 mm long. Calyx 14-23 x 6-7 mm, yellowish green to green; lobes 6-11 x 3-5 mm, with acute apex. Corolla 50-59 mm long, white. (Peru)



Note: calyx and corolla measurements include both lobes and tube