

Petaladenium Ducke

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This treatment is composed of the following taxa: *Petaladenium*, *Petaladenium urceoliferum*.

HOW TO CITE

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DESCRIPTION

Tree 8–30 m tall; bark grey brown to pale brown, smooth or flaking slightly, deeply vertically fissured and often with lenticels; slash pale red brown, producing small quantities of thick, red exudate; twigs pubescent, lenticellate. Stipules not seen. **Leaves** 5–9(–11)-foliolate, imparipinnate; petiole 3–10 cm long, including a distinct, swollen pulvinus; rachis 12–30 cm long, ridged or finely so, occasionally lenticellate, puberulous; stipels absent; pulvinules 5–11 mm long, dull green; leaflets 9–21 × 3.5–8(–10.5) cm, opposite, subopposite, or clearly alternate, the terminal one usually broadest, lower pairs often smaller, elliptic oblong to lanceolate, sometimes ovate, base often slightly asymmetric, round or obtuse, apex acute to long acuminate, acumen up to 3 cm long, chartaceous, finely pubescent, dark green and nitid above, pale green below. **Inflorescence** 9–22 cm long, ramiflorous or axillary in simple lateral 1–4 branched racemes or panicles, densely reddishbrown tomentose; bracts 6–8 mm long, lanceolate, cucullate, apex acute, persistent; bracteoles 5–8 mm long, linearlanceolate, oppositely attached in the middle of a 8–10 mm long pedicel. **Flowers** 14–17 mm long; calyx 8–11 mm long, including a 3–4 mm long hypanthium, campanulate, densely reddish-brown pubescent outside, glabrous inside, lobes unequal, acute, triangular, fused for one third of their length; petals white pinkish to pale lilac; standard suborbicular, apex emarginate, base auriculate, reddish brown tomentose near the apex of inner face and on the outer surface, with a large triangular white nectar guide, occasionally very darkly veined, claw broad; wing petals auriculate, petal sculpturing absent, glabrous, fimbriate, each margin with 3–5 short stipitate, urceolate, whitish gland like structures# keel petals free, but firmly attached by interlocking folds, bi auriculate, glabrous; stamens 10, united unevenly from 1–5 mm, unequal, anthers ca. 3 mm long, oblong, brownish, dehiscing by a longitudinal slit; gynoecium up to 12 mm long, stipitate, ovary narrowly obovate, ovules 3–4, style tapering to an incurved tip, stigma minute, truncate. **Pods** 18–22 × 3–4 cm long, including a stipe up to 2.5 cm long, elastically dehiscent, linear oblong to linear obovate, very flattened, valves woody, greenish when immature, turning brownish during maturity, glabrous. **Seeds** 2–3, ca. 15 × 12 × 2 mm, flattened and obovate in outline; testa dark reddish brown, slightly wrinkled; hilum ca. 1.5 mm long, oblong.

COMMENTS

This quite morphologically distinct genus remained phylogenetically unplaced and poorly represented in herbaria for 75 years until collections became available in 2013 (Cardoso et al. 2015a). Adolpho Ducke described *Petaladenium* to accommodate a single tree species, *Petaladenium urceoliferum* (Ducke 1938), which is confined to terra-firme rain forests from the upper Rio Negro in the Brazilian Amazonia.

Life Form

Tree

Substrate

Terrestrial

DISTRIBUTION

Native, Is endemic from Brazil

Phytogeographic Domains

Amazon Rainforest

Vegetation Types

Terra Firme Forest, Ombrophyllous Forest (Tropical Rain Forest)

Geographic Distribution

Confirmed occurrences

North (Amazonas)

FIELD IMAGES / ILLUSTRATIONS



Figure 1: *Petaladenium Ducke*



Figure 2: *Petaladenium Ducke*



Figure 3: *Petaladenium* Ducke



Figure 4: *Petaladenium* Ducke



Figure 5: *Petaladenium* Ducke



Figure 6: *Petaladenium* Ducke

REFERENCE

- Cardoso, D., Carvalho-Sobrinho, J.G., Zartman, C.E., Komura, D.L. & Queiroz, L.P. 2015a. Unexplored Amazonian diversity: Rare and phylogenetically enigmatic tree species are newly collected. *Neodiversity* 8: 55–73.
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Petaladenium urceoliferum Ducke

DESCRIPTION

Tree 8–30 m tall; bark grey brown to pale brown, smooth or flaking slightly, deeply vertically fissured and often with lenticels; slash pale red brown, producing small quantities of thick, red exudate; twigs pubescent, lenticellate. Stipules not seen. **Leaves** 5–9(–11)-foliolate, imparipinnate; petiole 3–10 cm long, including a distinct, swollen pulvinus; rachis 12–30 cm long, ridged or finely so, occasionally lenticellate, puberulous; stipels absent; pulvinules 5–11 mm long, dull green; leaflets 9–21 × 3.5–8(–10.5) cm, opposite, subopposite, or clearly alternate, the terminal one usually broadest, lower pairs often smaller, elliptic oblong to lanceolate, sometimes ovate, base often slightly asymmetric, round or obtuse, apex acute to long acuminate, acumen up to 3 cm long, chartaceous, finely pubescent, dark green and nitid above, pale green below, venation eucamptodromous, secondary veins in 7–11 pairs, 1–2 cm apart, raised below, the tertiary veins more or less parallel and at right angles to the secondary veins. **Inflorescence** 9–22 cm long, ramiflorous or axillary in simple lateral 1–4 branched racemes or panicles, densely reddish-brown tomentose; bracts 6–8 mm long, lanceolate, cucullate, apex acute, persistent; bracteoles 5–8 mm long, linear-lanceolate, oppositely attached in the middle of a 8–10 mm long pedicel. **Flowers** 14–17 mm long; calyx 8–11 mm long, including a 3–4 mm long hypanthium, campanulate, densely reddish brown pubescent outside, glabrous inside, lobes unequal, acute, triangular, fused for one third of their length; petals white pinkish to pale lilac; standard 16–20 × 16–20 mm, suborbicular, apex emarginate, base auriculate, reddish brown tomentose near the apex of inner face and on the outer surface, with a large triangular white nectar guide, occasionally very darkly veined, claw broad, 2.5–3.5 mm long; wing petals 14–17 × 6–7 mm, auriculate, petal sculpturing absent, glabrous, fimbriate, each margin with 3–5 short stipitate, urceolate, whitish gland like structures, claw 4.5–5.5 mm long; keel petals 14–17 × 6–7 mm, free, but firmly attached by interlocking folds, bi auriculate, glabrous, claw 4.5–5.5 mm long; stamens 10, united unevenly from 1–5 mm, unequal, the longest stamens 13–15 mm long, the shortest stamens 7–8 mm long, anthers ca. 3 mm long, oblong, brownish, dehiscing by a longitudinal slit; gynoeceum up to 12 mm long, stipitate, ovary narrowly obovate, ovules 3–4, style tapering to an incurved tip, stigma minute, truncate. **Pods** 18–22 × 3–4 cm long, including a stipe up to 2.5 cm long, elastically dehiscent, linear oblong to linear obovate, very flattened, valves woody, greenish when immature, turning brownish during maturity, glabrous. **Seeds** 2–3, ca. 15 × 12 × 2 mm, flattened and obovate in outline; testa dark reddish brown, slightly wrinkled; hilum ca. 1.5 mm long, oblong.

COMMENTS

Petaladenium urceoliferum represents a striking example of a poorly collected, morphologically unique, rare, and geographically restricted tree in terra firme forests in a single drainage (Rio Curicuriari) of the upper Rio Negro. It was described by Ducke (1938) after having collected a single flowering specimen. Four additional flowering specimens were collected in the 1960s and 1970s and the first fruit collection gathered in the 1980s was unidentified until recently among the legume collections at INPA, K, and RB herbaria. During a field expedition to the Serra de Curicuriari, we have recollected complete flowering and fruiting materials of this monospecific genus (Cardoso et al. 2015). It is now reported in flower from February to April and in fruit in November, March, and April.

Life Form

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Substrate

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Geographic Distribution

Confirmed occurrences

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HERBARIUM MATERIAL

D.B.O.S. Cardoso, 3377, ALCB, 35183 (ALCB031970), Amazonas

D.B.O.S. Cardoso, 3345, ALCB, 35183 (ALCB048747), Amazonas

A. Ducke, 35183, K,  (K000535206), K,  (K000535207), K,  (K000978024), NY,  (NY00026657), NY,  (NY01239366), RB, 35183,  (RB00540383), RB, 35183,  (RB00595925), RB, 35183,  (RB00595944), S, 35183 (S-R-9764), US, 35183,  (US00002936), **Typus**

FIELD IMAGES / ILLUSTRATIONS



Figure 1: *Petaladenium urceoliferum* Ducke



Figure 2: *Petaladenium urceoliferum* Ducke



Figure 3: *Petaladenium urceoliferum* Ducke



Figure 4: *Petaladenium urceoliferum* Ducke



Figure 5: *Petaladenium urceoliferum* Ducke



Figure 6: *Petaladenium urceoliferum* Ducke



Figure 7: *Petaladenium urceoliferum* Ducke

REFERENCE

Ducke, A. 1949. Notas sobre a Flora Neotropica - II: As Leguminosas da Amazonia Brasileira (ed. 2). Bol. Tecn. Inst. Agron. N. 18: 1-248.