

A NEW SPECIES OF *CHOMELIA* (RUBIACEAE, GUETTARDEAE) FROM THE BRAZILIAN PLANALTO

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SUMMARY

During the ongoing treatment of the Rubiaceae for the Flora of the states of Goiás and Tocantins and the Flora of the Federal District of Brazil, a new species of *Chomelia* (*C. kirkbridei* Delprete) from the Brazilian Planalto was found, and is here described and illustrated. A key to the species of *Chomelia* occurring in the states of Goiás and Tocantins and the Federal District of Brazil, is also included.

Key words: Guettardeae, Rubiaceae, *Chomelia*, Federal District, Goiás, Brazil, South America, floristics, taxonomy.

INTRODUCTION

Chomelia Jacq., as traditionally recognized, is a Neotropical genus of about 70–80 species of shrubs and trees (Andersson 1992, Govaerts et al. 2008), with the main centres of diversity in the Andean Cloud forests, Guayana Highlands and the Brazilian Atlantic forest. In addition, *Chomelia* has been classically treated as the sister genus of *Guettarda* L., distinguished by the persistent, lobed calyx (vs caducous, truncate to shallowly lobed in *Guettarda*), corolla lobes valvate or valvate-induplicate (vs imbricate), and fruits usually 2-locular (vs (1–2–)3–9-locular) (Hooker 1873, Müller Argoviensis 1881, Bremekamp 1934, Steyermark 1972, 1974). The molecular phylogenies produced by Achille et al. (2006) showed that *Chomelia* is instead more closely related to *Stenostomum* C.F.Gaertn. than to *Guettarda*. *Stenostomum* is a genus of c. 47 species, centred in the Caribbean Region (Govaerts et al. 2008), that was represented in the phylogenetic study only by *S. acutatum* DC. and *S. myrtifolium* Griseb.). Of the genus *Chomelia*, only *C. ribesioides* Benth. ex A.Gray and *C. spinosa* Jacq. were included, which provided preliminary evidence that *Chomelia* and *Stenostomum* are sister taxa; however, because only two species of *Chomelia* were investigated, the monophyly of the two genera was not significantly tested. *Chomelia* is here treated as traditionally delimited.

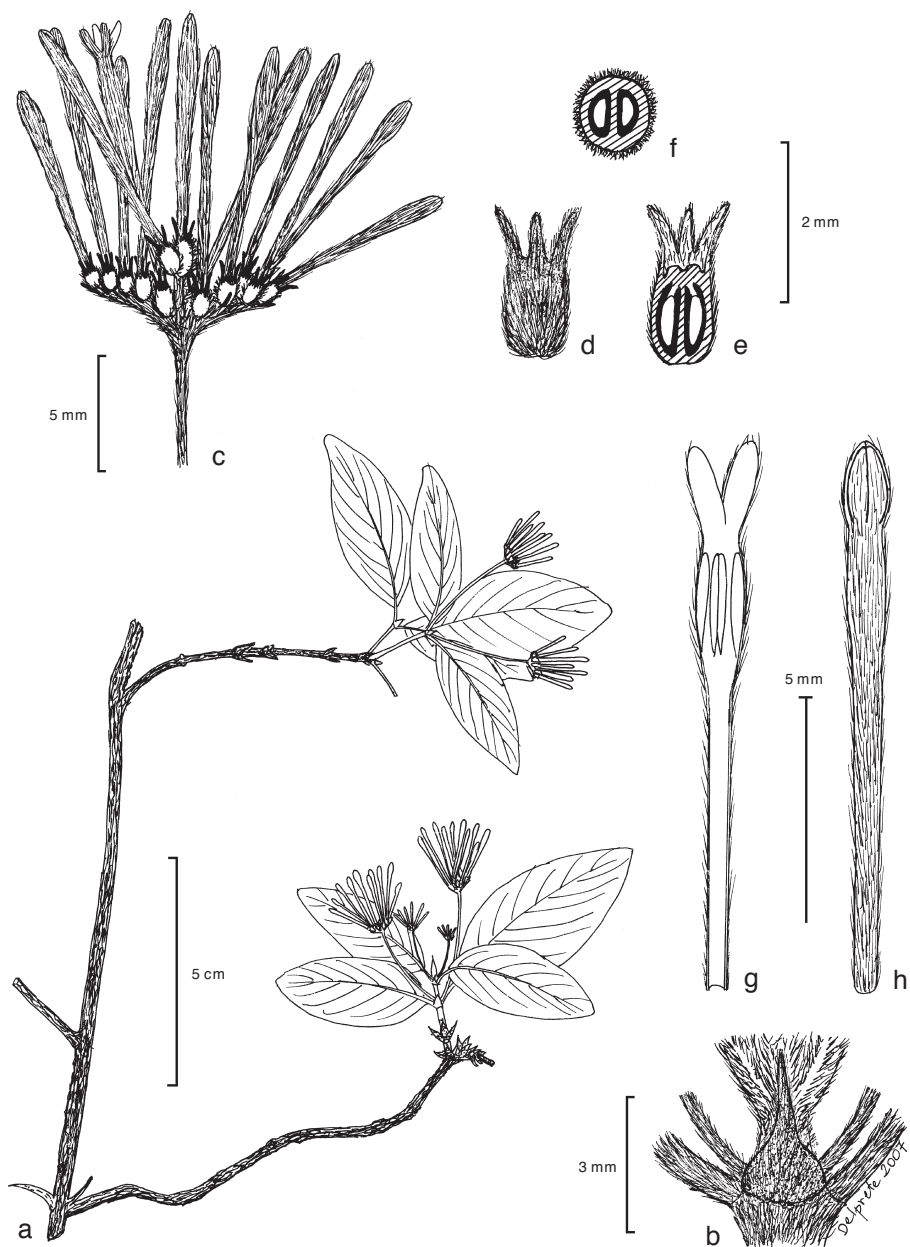


Fig. 1. *Chomelia kirkbridei* Delprete. a. Habit of flowering branch; b. node with stipule, base of two peduncles and young petioles; c. detail of one inflorescence; d. hypanthium and calyx, side view; e. hypanthium and calyx, longitudinal section; f. hypanthium and ovary, cross section; g. corolla in anthesis longitudinally dissected; h. flower bud, side view, note that the two facing lobes are slightly shorter (from *J.H. Kirkbride 3628*).

CHOMELIA

Chomelia has never been subject of a taxonomic revision; however, a few floristic treatments are available for the identification of South American species. Steyermark (1967) treated *Chomelia* for the Flora of the Guayana Highlands (and contiguous areas, in fact the treatment included north-eastern Brazil and the northern portion of the Brazilian Shield), where he recognized 11 species. More recently, Taylor & Steyermark (2004) studied this genus for the Flora of the Venezuelan Guayana (states of Amazonas and Bolívar), where they recognized nine species. As for Central-Western Brazil, there is no Rubiaceae treatment available, and the most recent floristic treatment that includes this area dates back to the Flora Brasiliensis (Müller Argoviensis 1881). A preliminary synopsis of the Rubiaceae of the states of Mato Grosso and Mato Grosso do Sul was compiled by Delprete & Cortes-B. (2007), where seven species of *Chomelia* are listed. The Rubiaceae contributions for the Flora of the states of Goiás and Tocantins (Delprete in prep. a) and the Federal District of Brazil (Delprete in prep. b) will be completed in the near future. So far, in the states of Goiás and Tocantins, and in the Federal District, five species of *Chomelia* have been found: *C. obtusa* Cham. & Schltld., *C. parviflora* (Müll. Arg.) Müll. Arg., *C. pohliana* Müll. Arg., *C. ribesioides*, and *C. kirkbridei*, described below.

1. *Chomelia kirkbridei* Delprete, *spec. nov.* — Fig. 1

Chomelia polyanthae Blake (Colombia, Venezuela) simillimus inflorescentiis axillaribus pedunculatis condensatis, sed ab illa differt foliis domatiis destitutis (nec foliis domatiis trichomatosi instructis), pedunculis parce patenter pubescentibus vel breviter lanatis (nec pedunculis glabris), calyce tubo deminuto usque as 0.4 mm longo, vel nullo, atque lobis 4–8 mm longis (nec tubo 1.5–1.8 mm longo ac lobis 0.7–1 mm longis), corolla extus parce antrorse pubescente tubo 10–12 mm longo atque lobis 1.3–1.7 mm longis (nec corolla extus dense strigulosa tubo 8–15 mm longo atque lobis 3–4 mm longis). — Typus: *J.H. Kirkbride* 3628 (holo UB; iso NY, UB, US n.v.), Brazil, Federal District, near Rio das Salinas, 15°31'S, 47°57'W, 770 m, 8 Oct. 1980 (fl).

Tree to 5 m tall; branchlets pale brown-greyish, sparsely lenticellate; axillary thorns slightly curved, 3–8 mm long. *Stipules* ovate-triangular, 2.5–4.5 by 2.3–3 mm, acute to short-acuminate at apex, adpressed-sericeous outside when young, turning glabrate at a later stage, persistent, sometimes irregularly breaking off at older nodes. *Petioles* 2–8 mm long, spreading or adpressed-pubescent; blades ovate, elliptic to obovate, 1.5–5 by 0.8–3.2 cm, acute, obtuse to round at base, obtuse to acute at apex, chartaceous, drying reddish brown above and greyish olive green below, sparsely puberulent above (velutinous to the touch), densely spreading pubescent below; secondary veins 6 each side, sparsely to densely pubescent above, densely spreading pubescent below; margins thickened, ciliate; domatia absent. *Inflorescences* axillary, condensed cymes, 7–30-flowered; peduncles filiform, 1–3.5 cm long, sparsely spreading-pubescent to short-lanate. *Flowers* hermaphroditic, sessile, subtended by two narrowly-lanceolate, oblong to linear bracteoles 0.3–0.6 mm long, free at base; hypanthium ellipsoid, 0.7–1 mm long, densely adpressed-pubescent; calyx tube extremely reduced or absent, to 0.4 mm long, sparsely puberulent to short-pubescent, lobes usually unequal, ovate, oblong-lanceolate to linear, 4–8 by 0.2–0.4 mm, acute at apex; corolla hypocrateriform, 12–14 mm long,

tube green with white lobes, tube narrowly cylindrical, 10–12 mm long, gradually wider towards the mouth, 0.2–0.3 mm wide at base, 0.7–0.9 mm wide at mouth, sparsely antrorse-pubescent outside, glabrous inside, lobes (3 or) 4, narrowly imbricate, equal or slightly unequal, oblong-ovate, 1.3–1.7 by 0.7–1 mm, obtuse to round at apex, sparsely antrorse-pubescent outside (glabrous near margins), anthers included, subsessile, inserted 2–2.5 mm below the mouth, narrowly oblong, 1.1–1.3 by 0.2 mm, dorsifixed near the base, round at apex, short-caudate at base. *Ovary* 2-locular. *Style* included, 4.5–5 mm long, glabrous; style branches 2, unequal, narrowly oblong, the longer one c. 1 mm long, the shorter one c. 0.7 mm long. *Fruit* unknown.

Distribution & Ecology — At the moment, only known from the type collection from the Federal District of Brazil, according to the label locally quite common, and found on calcareous outcrops at the border of deciduous forest, near Rio das Salinas. A trip in search for this species was realized in February 2008, at the type locality and surrounding region, but without success, indicating that it might be a rare and probably endangered taxon.

Etymology — The specific epithet is dedicated to Joseph H. Kirkbride Jr., renowned Rubiaceae specialist and generous colleague, who collected the type specimens when he was working at the University of Brasília.

Notes — *Chomelia kirkbridei* is most similar to *Chomelia polyantha* (from Colombia and Venezuela), because of the pedunculate, condensed, axillary inflorescences, thin peduncles, and oblong-ovate corolla lobes, from which it can be distinguished by the lack of leaf domatia (vs leaf domatia as tufts of hairs in *C. polyantha*), peduncle sparsely spreading-pubescent to short-lanate (vs glabrous), calyx tube extremely reduced or absent, to 0.4 mm long, and lobes 4–8 mm long (vs tube 1.5–1.8 mm long and lobes 0.7–1 mm long), corolla sparsely antrorse-pubescent outside, tube 10–12 mm long and lobes 1.3–1.7 mm long (vs densely strigillose outside, tube 8–15 mm long and lobes 3–4 mm long), and anthers basally caudate (vs round at base, not caudate).

Among the species of *Chomelia* occurring in the states of Goiás and Tocantins and the Federal District of Brazil, *C. kirkbridei* is most similar to *C. obtusa* (widespread throughout South America) by having corollas hypocrateriform and 12–14 mm long, from which it could be distinguished by the stipules 2.5–4.5 mm long (vs 0.7–1 mm long in *C. obtusa*), leaf blades sparsely to densely pubescent above and densely spreading pubescent below, without domatia (vs glabrous above and glabrous or sparsely pubescent below, with tuft-domatia), inflorescences 7–30-flowered (vs 1–3(–4)-flowered), corolla lobes narrowly imbricate, oblong-ovate, 1.3–1.7 mm long (vs lobes valvate, ovate to round, 1.5–2.5 mm long), and style included, 4.5–5 mm long (vs exserted, 9.5–13 mm long).

KEY TO THE SPECIES OF CHOMELIA
IN THE STATES OF GOIÁS AND TOCANTINS
AND THE FEDERAL DISTRICT (BRAZIL)

- 1a. Corolla hypocrateriform, with tube 9–13 mm long. 2
b. Corolla narrowly-campanulate to campanulate, with tube 2.5–5 mm long 4

- 2a. Leaf blades 3–10.5 by 1.5–5.5 cm, acute to acuminate at apex, sericeous-pubescent or hispid below, with (6–)7–11 secondary veins each side; inflorescence laxely cymose, (14–)24–55-flowered; corolla lobes oblong-ovate to lanceolate, 3.5–4.5 mm long, corniculate, valvate-induplicate in bud ***C. pohliana***
- b. Leaf blades 1.3–5(–6) by 0.5–3.5 cm, obtuse to round at apex, glabrous or pubescent below, with 4–6 secondary veins each side; inflorescence constricted cymose, 1–3(–4)-flowered or 7–30-flowered; corolla lobes ovate to round, 1.3–2.5 mm long, not corniculate, valvate or narrowly-imbricate in bud. 3
- 3a. Stipules 2.5–4.5 mm long; leaf blades sparsely to densely-pubescent above, densely patent-pubescent below; domatia absent; inflorescence 7–30-flowered; corolla lobes narrowly-imbricate in bud; style included, 4.5–5 mm long (calcareous outcrops) ***C. kirkbridei***
- b. Stipules 0.7–1 mm long; leaf blades glabrous above and glabrous or sparsely-pubescent below; domatia as tufts of hairs; inflorescence 1–3(–4)-flowered; corolla lobes valvate in bud; style excluded, 9.5–13 mm long ***C. obtusa***
- 4a. Leaf blades glabrous below; inflorescence 1–5(–6)-flowered (white sand areas) ***C. parviflora***
- b. Leaf blades villose, tomentose, velutinous, densely adpressed-, erect- or spreading-pubescent below; inflorescence 7–15-flowered (cerrado vegetation)
. ***C. ribesoides***

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