



## *Pitcairnia asmussii* (Bromeliaceae), a new species from Venezuela, close to *P. xanthocalyx* Mart

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### Abstract

A new species of *Pitcairnia* similar to *P. xanthocalyx* Mart. is described, compared with this species and illustrated. The flowers of this new species has shorter pedicel, but larger sepals and petals, and it has dimorphic, non-petiolate leaves. The species was discovered by Matthias Asmuss from Caracas, Venezuela and cultivated at the Utrecht Botanical Gardens.

**Key words:** Taxonomy, Pitcairnioideae, New taxon

### Introduction

*Pitcairnia* L'Heritier (1788: t.11) is a mainly terrestrial and widely distributed genus (from Mexico to Argentina) with a total of 217 species and 69 infraspecific taxa (Gouda *et al.* cont. upd.), and there are about 52 species known from Venezuela. In 2015 Matthias Asmuss from Caracas, Venezuela collected a new *Pitcairnia* from Aragua, Venezuela with collector number 7. A specimen was prepared and stored at the herbarium VEN, but due to a chaotic period in that country, this specimen was probably lost, only the photos of the specimen remain. At the Utrecht Botanic Gardens we got a young specimen (shoot with accession nr. 2018GR00623) of this collection (#7) in November 2018, that flowered May this year (2024) and this living material was beside the type specimen used for the description and drawing. A herbarium voucher has been prepared and deposited at the herbarium U (in Naturalis Biodiversity Center Leiden, paratype). For the type collection a new specimen was collected in 2019 from the same locality with the collector number 14 and cultivated in the privet garden by Matthias. It flowered May 2022 and a herbarium specimen was prepared again and deposited at the herbarium VEN.

### Taxonomy

*Pitcairnia asmussii* Gouda *spec. nov.* Figure 1 A–C, 2.

Type:—Venezuela, Aragua, entre Cata y Cuyagua, Parque Nacional Henri Pittier, 10°28.959' N 67°43.727' W, 20-12-2019. Fl. in cult. 24-05-2022. *M. Asmuss, G. Keller, D. Garcia & M. Rondón* 14 (holotype VEN!).

**Diagnosis:**—A *Pitcairnia xanthocalyx* Mart. like species that differs from it by dimorphic leaves in the new shoots (starting with short narrow triangular coarsely serrate and pungent leaves *vs.* leaves all alike), leaves not (sub-)petiolate (*vs.* subpetiolate), the sheath spinose serrulate in upper half and glabrous (*vs.* entire and covered with a membrane of scales), the blade entire (except the base sometimes *vs.* laxly serrulate), flower pedicel shorter (0.8–0.9 *vs.* 1.5–2 cm), sepals longer ( [2–]2.5–2.8 *vs.* 1.5–2 cm) and petals longer (7–8.4 *vs.* 4.5–5 cm).

**Description:**—**Plant** acaulescent or short caulescent, flowering 70–140(–170) cm tall, growing terrestrial, with 15–40 rosulate leaves, forming an open rosette, pale green. **Leaves** spirally arranged, slightly turning downward secund, dimorphic, narrowed at the base but not (sub-)petiolate, persistent, thin coriaceous, much shorter than the inflorescence; **sheath** ample, fleshy coriaceous, broadly triangular-ovate, tightly clasping the stem and other sheaths, 2–6 cm long, 2–6 cm wide, upper half densely spinose serrulate of dark brown or blackish spines and





**FIGURE 1.** *Pitcairnia asmussii* at the type locality: A. Saxicolous growing plants in habitat; B. flowering specimen, showing the slightly secund leaf-blades; C. flowering specimen on rocky soil with radial symmetric rosettes.



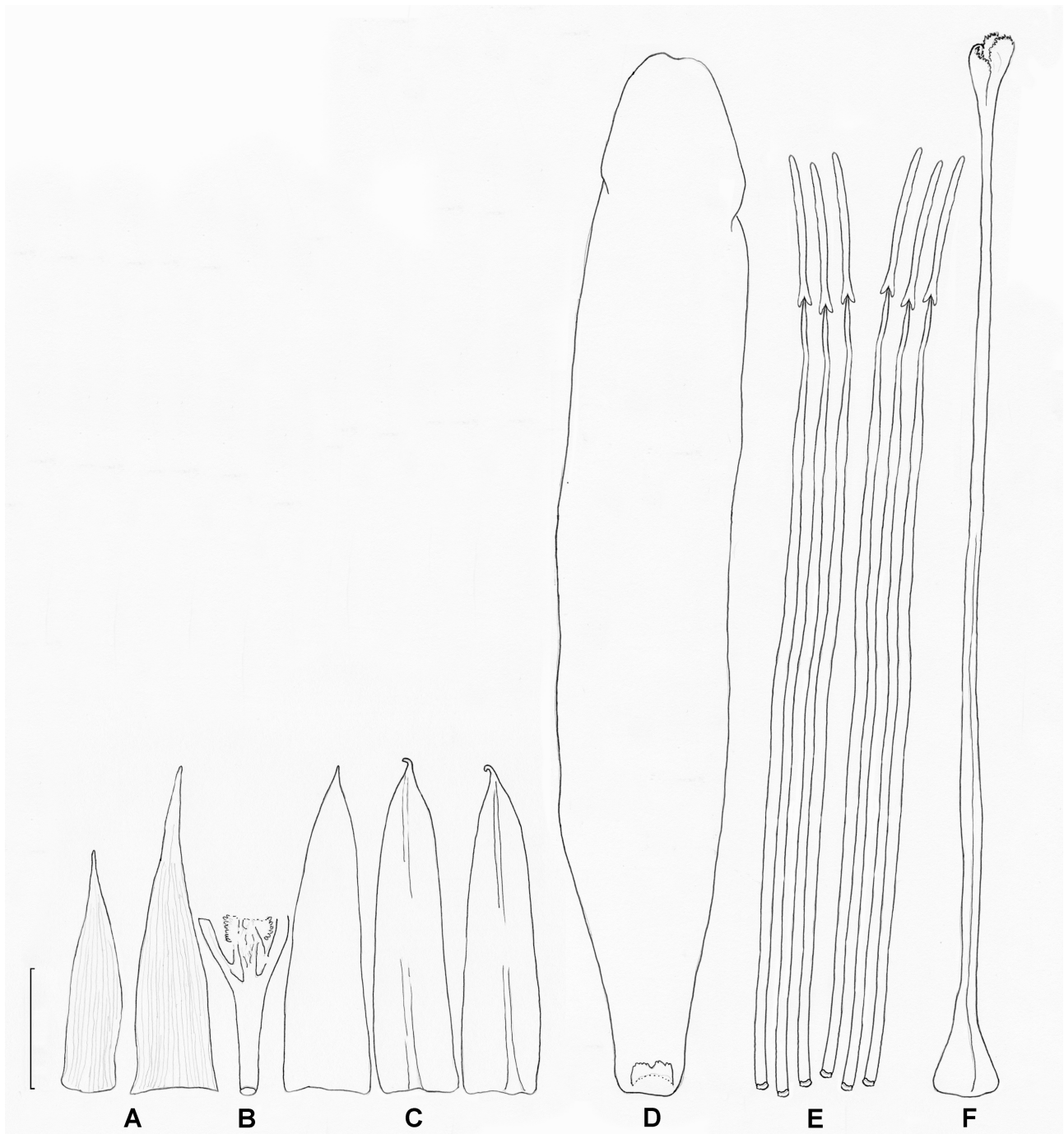
the inner ones entire, in lower half membranaceous at the margins, glabrous, cream colored to castaneous brown abaxially; **blade** divergent and arching to recurving, soft, thin coriaceous, with a slightly shallow channeled midsection (drying paler), linear-lanceolate, 30–40(–70) cm long, (1.8–)2–3.5 cm wide, the outer distinctly narrower than the inner ones (and lower peduncle bracts), bright green often with paler margins, entire except sometimes at the base, attenuate, narrowly caudate or attenuate and filiform-attenuate, glabrescent adaxially except toward the apex, abaxially covered with a white membrane of fused scales, with closely appressed trichomes (coming off easily); reduced-leaves (the first leaves of a shoot) narrow triangular, serrate of large black retrorse spines, pungent, brown-green. **Inflorescence** simple, racemose, lax, with 20–50 flowers, floccose, green; **fertile part** 25–65 cm long; **peduncle** slender, elongate, bracteate but mostly exposed, erect, 90–140 cm long, 8–10 mm in diameter, white floccose lepidote, green, distal internodes decreasing in length; **peduncle bracts** the lower ones foliaceous, rapidly reducing in length but broad, the lower ones with recurving blade, distal ones erect, remote, chartaceous, narrowly triangular or lanceolate, entire, filiform attenuate or the upper more acute, exceeding or slightly shorter than the internodes, but narrow and exposing much of the peduncle, green; **axis** elongate, wholly exposed, stout, straight, terete, internodes irregularly 0.1–2 cm long, white floccose lepidote, green; **floral bracts** small, like the upper peduncle-bracts, divergent with and the base clasping the pedicel, remote, chartaceous, finely veined, ecarinate, triangular-lanceolate to ovate, entire, attenuate or narrowly acuminate, 2–3 cm long, 0.5–0.6 cm wide, exceeding the pedicel and about as long as the ovary, adaxially sparsely lepidote especially toward the apex, abaxially subdensely lepidote at the margins and subdensely glandular hairy elsewhere, green. **Flowers** divergent, excluding pedicel ca 9 cm long, corolla slightly zygomorphic, with the petals turning to one side, imbricate and hooded over the stamens, curved to horizontal, pedicellate; **pedicel** divergent, sublender, 8–9 mm long, 1.6–2.3 mm in diameter; **sepals** fleshy at the base, even or slightly veined toward the apex when dry, narrowly triangular-ovate, symmetric or slightly asymmetric, with thin margins, abruptly triangular acute, slightly hooked at the lepidote apex, (2–)2.5–2.8 cm long, to 6.5–8.5 mm wide, abaxial ones bluntly carinate (obscurely toward the apex), free, only abaxially sparsely lepidote toward the base, pale yellow to greenish at base; **petals** narrowly oblong-ligulate or lanceolate, margins hyaline, bearing one ligule at the base, thin with fleshy base, the apex of the blade spreading to recurving, short cuneate at the base, with 4 mm wide claw, obtuse or rounded and slightly emarginate at apex, 7–8.4 cm long, 1–1.4 cm wide, soft fimbriate at the apex, pale salmon yellow or pale yellow, with hyaline margins; ligule ca 3 mm long (4 mm wide), truncate or bi-lobed, dentate, at the base half adnate to the petal. **Stamens** ca 7 cm long, included but exposed below the one sided petal-blades, all equal in length, shorter than the petals; **filament** slender, sub-terete to slightly complanate toward the base, straight (not plicate), shortly adnate to the ovary, salmon yellowish to paler at the base; **anther** basifixed, linear, 12–13 mm long, yellow, with two narrow lobes contiguous with the filament at the base, obtuse at the apex; pollen orange-yellow. **Pistil** exerted with the stigma; **ovary** ca half-inferior, inferior part 5–7 x 7.5 mm, obconic, green, lepidote, with laminar-nectary tissue in the center, superior part 8–8.5 cm long, attenuate from base upward, merging into the style, green; **ovules** many; **style** slender, elongate, many times longer than the ovary, deep salmon-yellow (paler toward base); **stigma** conduplicate-spiralized, club-shaped, densely papillose, deep yellow.

**Habitat and distribution:**—*Pitcairnia asmussii* grows on slopes in deciduous forests, often underneath shrubs and smaller trees, mostly on rocks or on apparently poor soil, in the province Costa de Oro, Aragua state, Venezuela at ca. 100 m.

**Etymology:**—This species is named after Matthias Asmuss from Caracas who is dedicated to study Bromeliaceae from Venezuela and who collected this new species.

**Additional material:**—(Paratype) Venezuela, Aragua, Costa de Oro, PN Henri Pittier, entre Cata & Cuyagua, 100 m . 9 Aug. 2015, *M. Asmuss* 7. Fl. in cult. 30 May 2024 at Utrecht Botanic Gardens(U!).

**Observations:**—This new species resembles *Pitcairnia xanthocalyx* Martius (1848: App. 4) from Mexico, but is generally larger in size, the leaves are narrowing toward the base but not (sub)petiolate like in *P. xanthocalyx* and the leaf-blades are wider (to 3.5 cm vs. ca 2 cm wide) and entire (vs. laxly serrulate). The lower peduncle bracts of the inflorescence and the inner leaves of the rosette are wider than the other leaves, which is not observed in *P. xanthocalyx*, where the bracts are all more narrower than the leaves. There are several other differences especially in the flower, like the size of sepals and petals, see *diagnosis* and Table 1. Two other *Pitcairnia* species has been described, both from Mexico, and compared with *P. xanthocalyx*. *P. loki-schmidtae* Rauh & Barthlott (1987: 18), but that species has another type of flower with campanulate actinomorphic corolla (vs. zygomorphic corolla in the new species); and *P. koeneniiana* E. Gross & Barthlott in (Gross 1997: 32) with a densely flowered inflorescence (vs. lax) and pale green petals with attenuate acute, undulated apex, that already spread apart before anthesis (vs. salmon-yellow petals with straight broadly rounded apex in the new species). It can also be confused with *P. venezuelana* L.B. Sm. & Steyerl. (Smith 1968: 76), which has orange petals and longer flower pedicels (15–30 vs. 8–9 mm long).



**FIGURE 2.** *Pitcairnia asmussii* A. lower and middle floral bract; B. pedicel and inferior part of the ovary; C. sepals; D. petal; E. stamens; F. superior part of the ovary, style and stigma. Drawing by the author from specimen Asmuss #7 (U).

**TABLE 1.** Comparison between *Pitcairnia asmussii* and *P. xanthocalyx* Mart.

	<i>Pitcairnia asmussii</i>	<i>Pitcairnia xanthocalyx</i>
leaves		
- dimorphy	dimorphic (not always obvious)	all alike
- blade petiolate or narrowed	narrowed at the base but not (sub-)petiolate	sub-petiolate
sheath		
- relative size	ample	small
- form	ovate	orbicular

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TABLE 1 (Continued)

	<i>Pitcairnia asmussii</i>	<i>Pitcairnia xanthocalyx</i>
- margins entire or not	spinose serrulate in the upper half	entire
- indument	glabrous	covered with a membrane of scales
blade		
- margins entire or not	entire	laxly serrulate
reduced-leaves		
- form	new shoots starting with short narrow triangular coarsely serrate and pungent leaves	absent
inflorescence		
- indument	floccose	soon glabrous
pedicel		
- length	0.8–0.9 cm	1.5–2 cm
sepals		
- length	(2–)2.5–2.8 cm	1.5–2 cm
- indument	sparsely lepidote toward the base	glabrescent except the apex
- color	yellow	orange
petals		
- length	7–8.4 cm	4.5–5 cm

## Literature

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