

Novitates Gabonenses 71. A new species of *Uapaca* (Phyllanthaceae, formerly Euphorbiaceae) from Gabon

Frans J. Breteler

Herbarium Vadense, Biosystematics Group, Wageningen University, Generaal Foulkesweg 37, NL – 6703 BL Wageningen, The Netherlands.
E-mail: frans@breteler.xs4all.nl

Background and aims – The African genus *Uapaca* of the Phyllanthaceae (formerly Euphorbiaceae) is revised for the Flore du Gabon. Prior to its publication, the present paper publishes a new species from that country.

Methods – Normal practices of herbarium taxonomy have been applied to study all herbarium material available mainly at BR, K, LBV, MO, P, WAG.

Key results – The new species *Uapaca niangadoumae* belongs to the group of *Uapaca* species that lack stipules or have rudimentary stipules only. A key to these species is provided. The new species is illustrated.

Key words – Phyllanthaceae (formerly Euphorbiaceae), *Uapaca*, taxonomy, Gabon, tropical Africa, new species.

INTRODUCTION

Since the treatment by Pax & Hoffmann (1922) the only comprehensive work on *Uapaca* that appeared is by De Wildeman (1936), extended by Duvigneaud (1950) for the savannah species. An enumeration of the species by De Wildeman (1936), indicating the presence of male and female flowers as well as fruits and pyrenes, lists 47 species of which 31 were newly described by himself. Of these 47 species 38 are described from the Guineo-Congolian forest region (White 1979). A synoptic revision of these forest species nears its completion.

In the course of the preparation of the Phyllanthaceae (formerly Euphorbiaceae) for the Flore du Gabon, a new species of *Uapaca* was discovered from the Mondah forest near Libreville, Gabon. The new species can be classified in the group of *Uapaca* species without stipules or with rudimentary stipules, leaving hardly any trace of their presence earlier. Amongst these the new species is characterised by its narrowly oblong to obovate-elliptic leaves and by the indumentum on the lower leaf surface. Most forest species of *Uapaca* have a wide distribution (see key) and it is therefore astonishing that the new species, at least so far, is restricted to the Mondah forest N of Libreville. This forest, and its nearby region, is known for its endemics like this new *Uapaca* as well as *Acridocarpus vestitus* Wieringa & Schoonhoven, ined. (Malpighiaceae), *Aristocheitonia gabonica* Breteler (Picrodendraceae), and *Tricalysia micrantha* Hiern (Rubiaceae). The area in general, but the Mondah forest in particular, are threatened by the growing city of Libreville. The charac-

terisation of the new species by the leaves and the absence of stipules, does not leave any doubt about its existence. The new taxon is well distinguished from the morphologically close species *U. guineensis* Müll.Arg. and *U. togoensis* Pax.

TAXONOMIC TREATMENT

Uapaca niangadoumae Breteler, sp. nov.

Hornotinis pubescentibus *Uapaca guineensis* Müll.Arg. et *Uapaca togoensis* Pax simillima sed ab illis differt foliis angustioribus vulgo acuminatis costa subtus puberula. – Type: Gabon, Forêt classée de la Mondah, N. of Libreville, 10 Nov. 2009, Bissiegou, Breteler, Niangadouma & Nyangala 826 (holo-: WAG; iso-: BR, LBV, MO).

Tree with stilt roots, up to 15 m tall and 30 cm diam. Branchlets puberulous, glabrescent, indumentum longer persistent around base of petioles, exuding a little clear to pale-brown latex. **Stipules** absent. **Leaves** petiole terete, 3–8(–11) cm long, glabrous; lamina coriaceous, narrowly oblong-elliptic to obovate-elliptic, 2.5–3.5(–4) times long as wide, (12–)18–28(–36) × (4–)6–9(–10) cm, rounded to sometimes slightly cuneate at base, 0.5–1.5(–2) cm acuminate or acute at apex, margin entire; midrib prominent on both sides, the 7–11 pairs of main lateral nerves ± indistinct above, prominent beneath; lamina glabrous above, puberulous on the midrib and often, more sparsely so, on the main laterals beneath. **Inflorescences** axillary or also, at the same time, just below the leaves. ♂ **peduncle** 12–20 mm long, glabrous; involucre bracts 8, thick, ± concave, oblong-elliptic to obovate-elliptic,

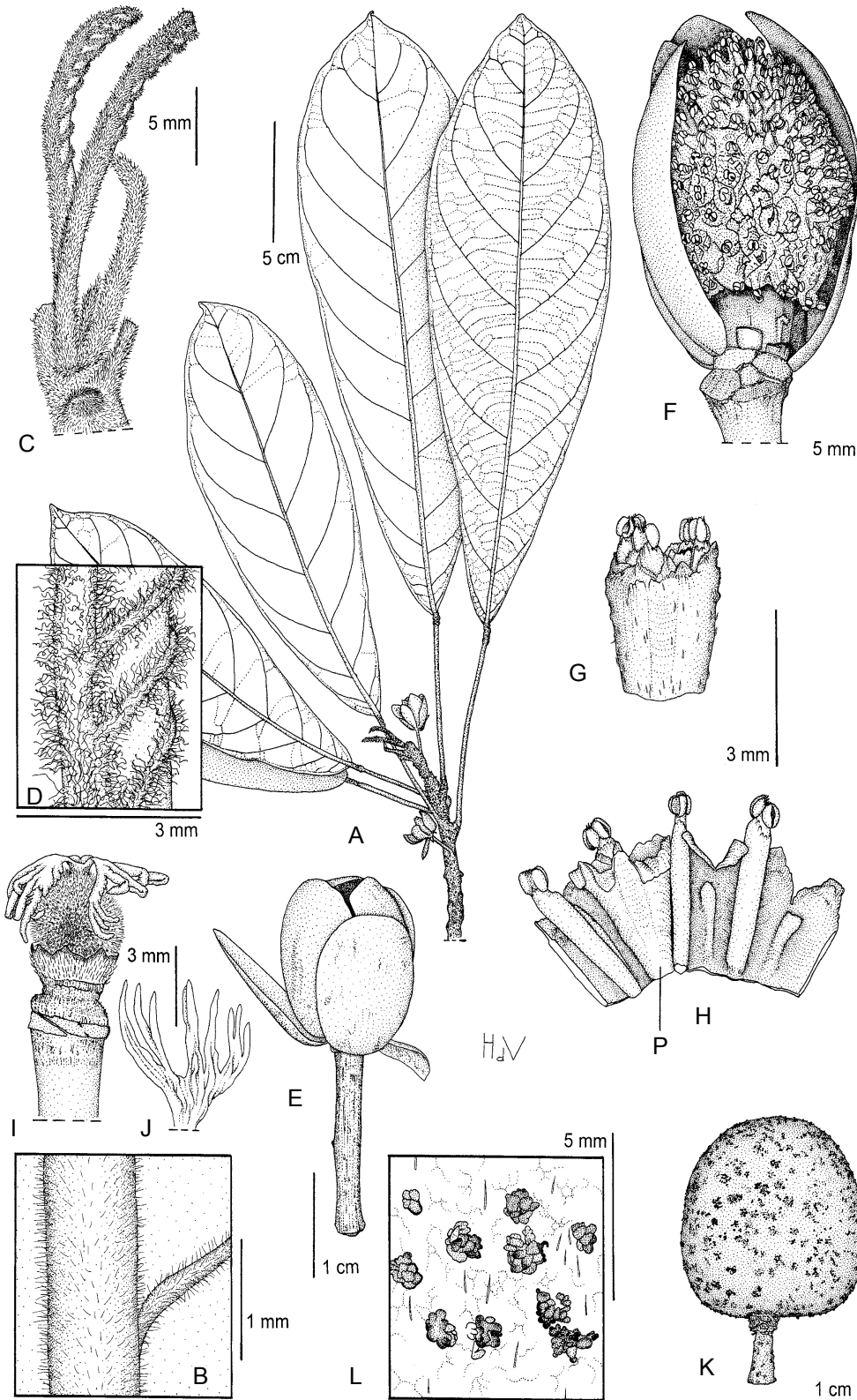


Figure 1 – *Uapaca niangadoumae*: A, male flowering branch; B, detail of leaf indumentum lower surface; C, young sprout; D, detail of indumentum on lower leaf surface of young sprout; E, male inflorescence; F, male inflorescence, some bracts removed; G, male flower; H, male flowered opened up showing calyx with traces of petals, stamens, and pistillode (P); I, female flower; J, stigma; K, fruit; L, detail of fruit surface. A–H from Bissengou *et al.* 823 (WAG); I, J, L from Bissengou *et al.* 826 (WAG); K from McPherson 15521 (WAG). Drawn by H. de Vries.

**Key to the species of *Uapaca* without stipules or with rudimentary stipules
leaving hardly any trace of their presence earlier**

1. Young branches glabrous, at most with a few hairs in the axil of the leaves.....2
1. Young branches puberulous to pubescent at least around the base of the petioles or laterally on both sides of the petiole.....3
2. Leaves papery to somewhat coriaceous, (5–)8–10(–14) × 2.5–5.5 cm, generally c. 0.5 cm acuminate at apex, with (5–)6–7(–10) pairs of main lateral nerves; inflorescence < 10 mm in diam. From southern Nigeria to Cameroon, Gabon, Republic of Congo, and western D.R.Congo.....
.....*U. acuminata* (Hutch.) Pax & K.Hoffm.
2. Leaves stiff, thickly coriaceous, (14–) 16–25(42) × (5–)6–11(–15) cm, obtuse to retuse at apex, with (7–)8–12 pairs of main lateral nerves; inflorescence (1.5–)2–4 cm in diam. From Guinea eastwards to Cameroon and southwards to D.R.Congo..... *U. pynaertii* De Wild.
3. Branchlets with tufts of reddish, curly hairs in the leaf-axils and usually also laterally on both sides of the base of the petiole. Species always near or (partly) in the water. From Senegal eastwards to Central African Republic and southwards to D.R.Congo..... *U. heudelotii* Baill.
3. Tufts of red, curly hairs absent, when hairs present not red. Species of dryland forest, whether periodically inundated or not.....4
4. Leaves narrowly oblong-elliptic to obovate elliptic, 2.5–3.5(–4) times as long as wide, 0.5–1.5(–2)cm, acuminate at apex; midrib puberulous beneath. From Gabon.....*U. niangadoumae* Breteler
4. Leaves more broadly obovate-elliptic, 1.5–2(–2.5) times as long as wide, usually truncate to retuse, rarely acuminate at apex; midrib glabrous beneath or with a few dispersed hairs.....5
5. Calyx of female flowers densely pubescent outside, in general well visible below the fruit, ± glabrous inside; ovary pubescent, fruit glabrous or glabrescent; ♂ flower without petals. From Guinea-Bissau to Central African Republic and southwards to northern D.R.Congo.....*U. togoensis* Pax
5. Calyx of female flowers glabrous or nearly so outside, but generally with long exerted hairs inside, usually well visible in fruit; ovary glabrous, fruit glabrous; ♂ flower with small, narrow petals. From Sierra Leone eastwards to Central African Republic and southwards to D.R.Congo.....
.....*U. guineensis* Müll.Arg.

the outer and the inner smaller than the middle ones, from c. 3 × 2 mm to 19 × 10 mm, glabrous. ♂ flowers sessile, c. 4 mm long; calyx tubular, 2.5–3 mm long, obtusely and shallowly 5-lobed, glabrous or with a few sparse hairs; stamens 5, exerted, filaments 3–3.5 mm long, anthers c. 0.3 mm long, connective glabrous or with a few hairs; pistillode cyathiform, glabrous, ± as long as the calyx. ♀ peduncle 5–8 mm long glabrous; involucre bracts as in the ♂ inflorescence but at most 11 × 7 mm. ♀ flowers sessile; calyx obtusely, shallowly 5-lobed, c. 1.5 mm long, appressed-pubescent outside, glabrous inside; ovary ellipsoid, 4–5 mm long, tomentellous, 3-locular; stigmas 3, palmately 5-lobed, the lobes often bifid at apex. Fruit subglobose to ellipsoid, 2–2.5 × c. 2 cm, obtuse at both ends, rugose, lenticellate, sparsely puberulous; stalk 7–8 m long. Fig. 1.

Habitat and distribution – Tropical rainforest near Libreville, Gabon.

Additional specimens studied – **Gabon:** forêt de la Mondah, 16 Oct. 2009, *Bissiengou et al.* 286 (BR, LBV, MO, WAG); Ibid., 10 Nov. 2009, *Bissiengou et al.* 823 (BR, G, LBV, MO, P, WAG); N of Libreville, 10 km on road to Cap Esterias, 20 Nov. 1991, *McPherson* 15521 (MO, WAG).

Etymology – The species is named after Raoul Niangadouma, excellent field botanist of the Herbarium National du Gabon and one of the collectors of the type material.

ACKNOWLEDGEMENTS

The author is very grateful to H. de Vries for the excellent drawing and to Mrs. B.J.M. Breteler-Klein Breteler for preparing the electronic version of the manuscript. L. Westra is kindly acknowledged for the translation of the species diagnosis into Latin. The financial support of Total Gabon and the Total Foundation, within the framework of the family treatment for the Flore du Gabon, is greatly appreciated.

REFERENCES

- De Wildeman E. (1936) Contributions à l'étude des espèces du genre *Uapaca* Baill. (Euphorbiaceae). Mémoires de l'Institut Royal Colonial Belge (in octavo) IV(5): 1–191.
- Duvigneaud P. (1950) Les “*Uapaca*” (Euphorbiacées) des forêts claires du Congo méridional. Bulletin de l'Institut Royal Colonial Belge 20: 863–892.
- Pax F., Hoffmann K. (1922) *Uapaca*. In: Engler A. (ed.) Das Pflanzenreich IV. 147. XV: 298–311. Leipzig, Wilhelm Engelmann.
- White F. (1979) The Guineo-Congolian Region and its relationships to other phytochoria. Bulletin du Jardin botanique national de Belgique 49: 11–55. <http://dx.doi.org/10.2307/3667815>

Manuscript received 3 Feb. 2011; accepted in revised version 1 Aug. 2011.

Communicating Editor: Elmar Robbrecht.