

Antidesma jongkindii (Phyllanthaceae), a new species from Liberia

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Background and aims – The botanical exploration of Liberia, notably by C.C.H. Jongkind, has yielded several new species. One of his recent collections proved to contain a new species of *Antidesma*.

Methods – Normal practices of herbarium taxonomy were applied to study the relevant herbarium material available at BR, K, and WAG. The relevant collecting data are stored at the Naturalis Biodiversity Center, Leiden, Section Botany. Map Maker was used to produce the distribution map.

Key results – *Antidesma jongkindii* Breteler is described as a new species and illustrated. Its distinction from the other three species present in Liberia is presented in a key. The species is proposed to be listed as Critically Endangered [CR B2ab (ii)] following IUCN criteria.

Keywords – Tropical Africa; Upper Guinea; taxonomy; Malpighiales.

INTRODUCTION

The forest flora of West tropical Africa is, compared to that of Central Africa, relatively well-known thanks to the two editions of the *Flora of West Tropical Africa* by Hutchinson & Dalziel (first edition 1928–1936, second, revised edition 1954–1972). Based on the second edition of this flora some national floras have been issued like the *Flore analytique du Togo* (Brunel et al. 1984) and the *Flore analytique du Bénin* (Akoègninou et al. 2006), but countries with large forest areas in upper Guinea like Côte d'Ivoire, Ghana and Liberia are still deprived of a national flora. Aké Assi's (2001, 2002) catalogue of the *Flore de la Côte d'Ivoire* is an important tool for further taxonomic work, but it lacks keys to and descriptions of the species that are enumerated. Lisowski's (2009) well-illustrated *Flore (Angiospermes) de la République de Guinée* is a good national flora with keys, descriptions and additional information about distribution and ecology.

The impressive *Ecological Atlas of Woody Plant Species* by Poorter et al. (2004), shows the profiles of the rare and endemic species of the Upper Guinean forests. The number

of new endemic species discovered since the appearance of the second edition of the *Flora of West Tropical Africa* is considerable and the botanical exploration of the Upper Guinean forests, especially of Liberia, continues to yield new species (Lachenaud & Jongkind 2013; Jongkind 2012, 2015, 2016, 2017, 2019). A specimen of an undescribed species of *Antidesma* L. (Phyllanthaceae) was recently collected in Liberia by C.C.H. Jongkind, who is still actively exploring the botanical diversity of this country.

Antidesma L. is a genus of c. 200 species from tropical and subtropical regions of the Old World especially from Asia and northern Australia with only 5–7 species known in continental Africa (Breteler 2012). Most African species are forest dwellers, except *Antidesma venosum* Tul., which is mostly found in savannah areas and is not recorded from Liberia (Hawthorne & Jongkind 2006). *Antidesma membranaceum* Müll.Arg. occupies an intermediate position as regards to its ecology (Keay 1958). The new species is presented hereafter by a description, an illustration, and a distribution map.

Key for morphological differences between the four *Antidesma* species known from Liberia

1. Stipules lacinate *A. laciniatum* Müll.Arg.
- 1'. Stipules entire or 2–3-lobed at the apex..... 2
2. Pistil glabrous; leaves mostly acute, sometimes shortly acuminate at the apex..... *A. membranaceum* Müll.Arg.
- 2'. Pistil at least sparsely pubescent; leaves distinctly acuminate at the apex 3
3. Pistillate flowers sessile; stipules often bilobed, rarely 3-lobed at the apex..... *A. jongkindii* Breteler
- 3'. Pistillate flowers shortly stipitate; stipules entire..... *A. oblongum* (Hutch.) Keay

MATERIAL AND METHODS

Classical methods of herbarium taxonomy were followed. The relevant herbarium material from Upper Guinea, more specifically from Liberia, is most richly presented in the herbaria of Kew (K) and Wageningen (WAG), the latter now located in Leiden. The database pertaining to these collections, developed for the work of Hawthorne & Jongkind (2006), now stored at Naturalis Biodiversity Center, Leiden and updated till present, was used for preparing the distribution map of the geolocalised specimens. The morphological illustrations of the new *Antidesma* species is prepared from the type material. Map Maker version 3.5 (Map Maker Limited 2013) was used to produce the distribution map.

TAXONOMIC TREATMENT

Antidesma jongkindii Breteler, sp. nov.

Figs 1–2

Diagnosis – Most closely resembling *Antidesma oblongum* (Hutch.) Keay, differing from this species by the often bifurcate stipules, the higher number of main lateral pairs of leaf nerves ((10–)11–13 versus up to 11), the longer pistillate inflorescences ((14–)16–18 cm versus up to 11.5 cm) and the sessile pistillate flowers.

Type – Liberia: Sino, not far from ITI road, 5°41.8'N, 9°00.9'W, alt. 84 m, 28 May 2018, *Jongkind, Sambolah, Cherif, Traore & Kamgar 13964* (holotype: BR; isotypes: COI, K, MA, P, WAG).

Description – *Shrub* c. 60 cm tall. *Branches* and branchlets subappressed puberulous. *Stipules* caducous, narrowly triangular to lanceolate in outline, entire to often bifurcate, rarely 3-lobed, 5–10 × 1–2 mm, puberulous. *Leaves* alternate, distichous on the plagiotropic branchlets; petiole semi-terete or grooved above, (2–)3–7(–10) mm long, puberulous; lamina ± narrowly obovate-elliptic, (9–)10–20(–23) × 3–7 cm, (1–)3(–3.5) times as long as wide, rounded at base, 1–2.5 cm acuminate and usually finely pointed at the apex, with (10–)11–13 pairs of main lateral nerves, glabrous above except for the substrigose midrib and sometimes with a few hairs on the main lateral nerves, beneath sparsely hairy on the prominent midrib and the main lateral nerves; domatia often present in the axils of the lower main lateral nerves. *Staminate* inflores-

cences and flowers unknown. *Pistillate* inflorescences pendulous (14–)16–18 cm long, densely hairy; peduncle 0–2 cm long; bracts ± narrowly triangular, 0.5–1 mm long. *Pistillate* flowers sessile, c. 2 mm long; calyx 3–4(–5)-lobed, thin, ± hyaline, c. 1 mm long, tomentose outside; disc firm, cupuliform, c. 0.5 mm long, pilose on upper margin; pistil c. 2 mm long, sparsely hairy; ovary c. 1.5 mm long, 1-locular, 2-ovulate; style c. 0.5 mm long; stigmata 3 or 4, spreading, entire or 2-lobed. *Fruit* unknown.

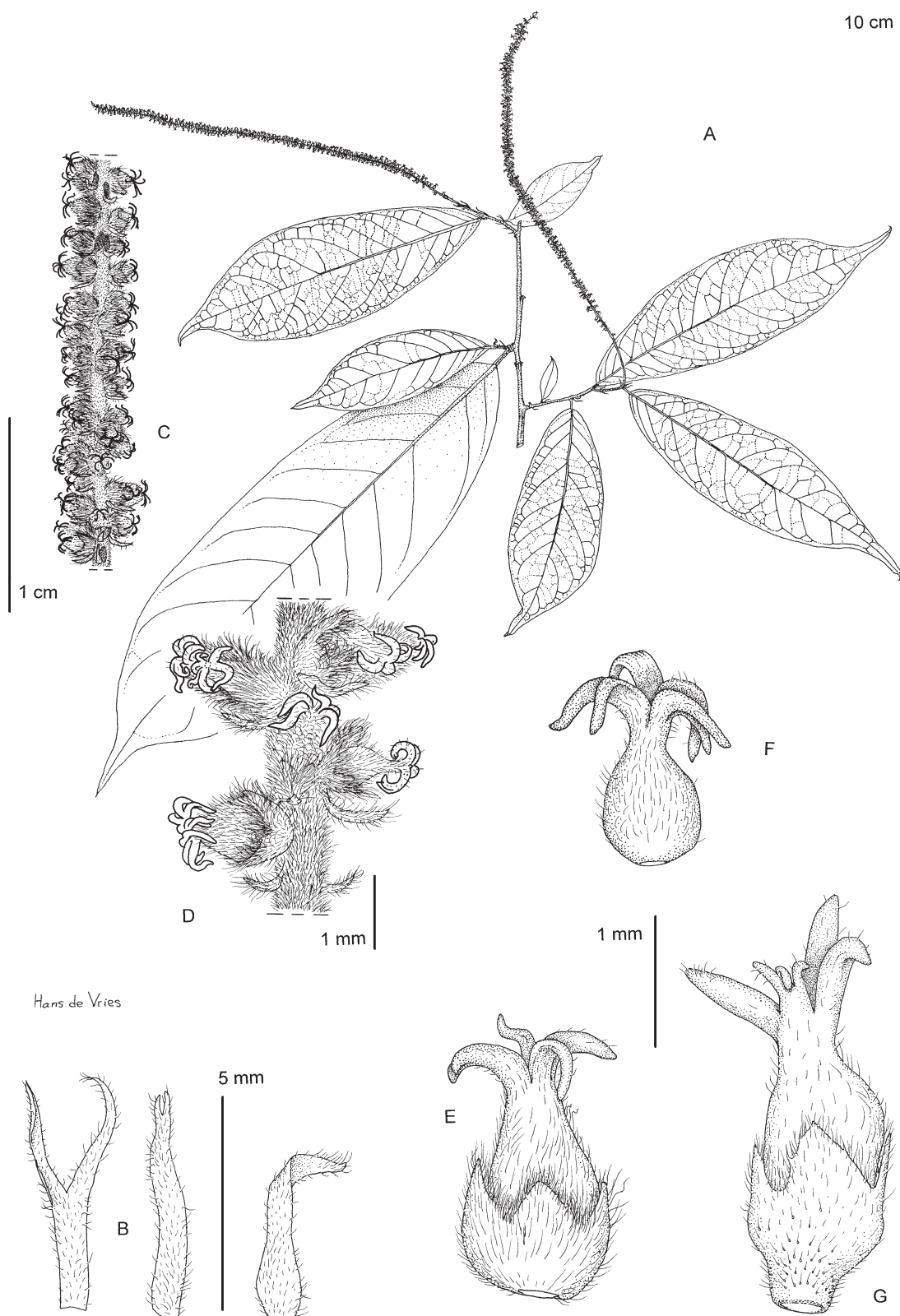
Distribution and habitat – Wet evergreen forest in Liberia at low altitude (fig. 2).

Conservation status – Critically Endangered [CR B2ab(ii)]. *Antidesma jongkindii* is an inconspicuous shrublet that can easily be overlooked. During a survey of 11 days in the south of the Krahn-Bassa area, only a single individual was found but it is still not unlikely that more plants occur in this not very accessible forest area. The AOO can be estimated to 4 km² and the EOO cannot be calculated since it is known only from one occurrence. The only locality from where it is collected is not in a protected area and considering the economic development planned and in progress in this part of Liberia, this locality should represent one location. Based on the high level of human pressure on the forest habitat of West Africa and especially in this part of Liberia, “Critically Endangered” [CR B2ab(ii)] following IUCN Red List Categories and Criteria (IUCN 2012) would be the appropriate status until more is known.

Taxonomic remarks – This new *Antidesma* species is only known by a pistillate flowering specimen. Although species of *Antidesma* are, at least in Africa (Keay 1958; Léonard 1995; Hawthorne & Jongkind 2006; Breteler 2012), mainly distinguished by characters of their stipules and leaves and by their fruits, the staminate element of *A. jongkindii* could probably provide additional characters for its distinctiveness. The densely hairy inflorescences of *A. jongkindii* are not used in its diagnosis because the variation of this character is unknown.

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Hans de Vries

Figure 1 – A–F. *Antidesma jongkindii*. A. Female flowering branchlet. B. Stipules. C–D. Part of inflorescence. E. Female flower. F. Pistil. G. *Antidesma oblongum*, female flower. A–F from Jongkind, Sambolah, Cherif, Traore & Kamgar 13964 (holotype, BR); G from Jongkind 9423 (WAG). Drawing by H. de Vries.

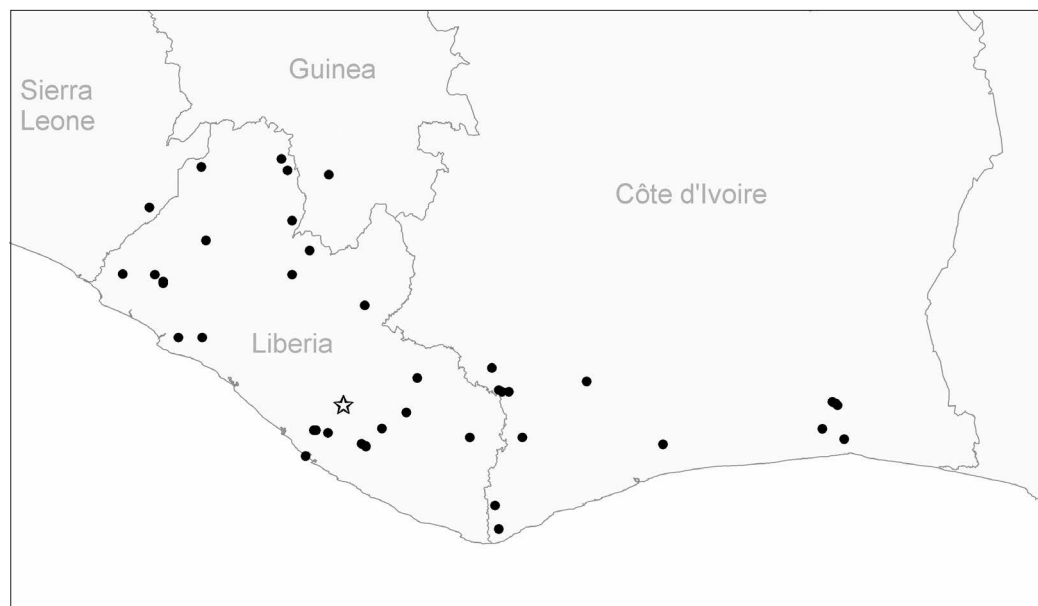


Figure 2 – Distribution of *Antidesma oblongum* (dots) and *Antidesma jongkindii* (star).

acknowledged for the distribution map and the detailed information about the collecting locality of the new species.

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