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***Homalium coriaceum* Jongkind, sp. nov. (Salicaceae): a new and Critically Endangered tree from Liberia**

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ABSTRACT

Homalium coriaceum Jongkind, sp. nov. (Salicaceae), a new tree species from Liberia, is described and its conservation assessment is presented. The oldest specimen of this species was in 1970 selected by Sleumer as holotype for *H. littorale*, but that name was never published. The new species has relatively small, almost glabrous, coriaceous leaves with hairy domatia, a branched inflorescence and velutinous disk-glands. A part of the already not very large area where the species was found is now part of the city of Monrovia. The species is considered to be Critically Endangered.

RÉSUMÉ

Homalium coriaceum Jongkind, sp. nov. (Salicaceae): une espèce nouvelle du Libéria en danger critique d'extinction.

Homalium coriaceum Jongkind, sp. nov. (Salicaceae), une nouvelle espèce d'arbre du Libéria, est décrite et son évaluation de conservation est présentée. Le spécimen le plus ancien de cette espèce avait été sélectionné par Sleumer en 1970 comme type pour *H. littorale*, mais ce nom n'a jamais été publié. La nouvelle espèce a des feuilles coriaces relativement petites, presque glabres, avec des domaties velues, une inflorescence ramifiée et des glandes discoïdes veloutées. Une partie de la zone déjà peu étendue où l'espèce est connue fait maintenant partie de la ville de Monrovia. L'espèce est considérée comme en danger critique d'extinction.

KEY WORDS

Africa,
Liberia,
Flacourtiaceae,
Salicaceae,
Homalium,
new species.

MOTS CLÉS

Afrique,
Libéria,
Flacourtiaceae,
Salicaceae,
Homalium,
espèce nouvelle.

INTRODUCTION

Sleumer's revision of the African species of *Homalium* Jacq. (at that time Flacourtiaceae, now Salicaceae) counts six species for Liberia (Sleumer 1973). In 1970 Sleumer still planned to describe a new species from Liberia, *Homalium littorale*, as can be seen on the herbarium sheet of *Voorhoeve 266* (WAG). However, three years later he cited *Voorhoeve 266* under *H. longistylum* Mast. with the note "forme de la savane côtière avec des feuilles plus petites et plus densément réticulées". Today we have two more specimens which are almost identical to *Voorhoeve 266* and it is clear that they represent an undescribed species. I want to name it here *Homalium coriaceum* Jongkind, sp. nov. The new species differs from *H. longistylum* by its smaller leaves and by its branched inflorescence. With *H. coriaceum* sp. nov. we now know eight species of *Homalium* from Liberia and 20 from continental Africa (Lebrun & Stork 2003), after 1973 no new species have been described for continental Africa (IPNI). Worldwide more than 150 *Homalium* species are recognised (Applequist 2020). A key to the Liberian *Homalium* species is included here.

Liberia is the most densely forested country in West Africa and part of the Guineo-Congolian Region. The Liberian flora is still not very well known and almost surely many of its endemic species, plants as well as animals, are still undescribed. A number of new endemic and near-endemic plant species have been published in recent years, like *Bertiera sinoensis* Jongkind (2017), *Didelotia gracillima* Jongkind (Jongkind 2019), *Drypetes liberica* Quintanar & D. J. Harris (Quintanar et al. 2021), *Gaertnera pedunculata* Jongkind (Jongkind 2018), *Mapania jongkindii* Mesterházy (Mesterházy et al. 2017), *Psychotria hirsutissima* O.Lachenaud (Lachenaud 2019) and

Tarenna harleyae Jongkind (Jongkind 2021). Several more will be published soon. Much more field work is still needed before the highly biodiverse vegetations of Liberia can be accurately described and mapped.

MATERIAL AND METHODS

The description of the new species is based on study of herbarium specimens and field work. The conservation assessment was made using the categories and criteria of IUCN (2012). The RBG Kew website <http://geocat.kew.org> was used to calculate the Extent of Occurrence (EOO) and Area of Occupancy (AOO). Herbarium citations follow Index Herbariorum (Thiers, continuously updated).

SYSTEMATICS

Family SALICACEAE Mirb.

Genus *Homalium* Jacq.

Homalium coriaceum Jongkind, sp. nov.
(Figs 1; 2)

Homalium littorale Sleumer ined. on *Voorhoeve 266* (WAG).

Homalium coriaceum Jongkind, sp. nov. resembles *H. longistylum* Mast. and *H. smythei* Hutch. & Dalziel by its almost glabrous leaves with cuneate leaf bases. It differs from both by its smaller leaves, from *H. longistylum* by its branched and not simple inflorescence, and from *H. smythei* by its disk-glands that are densely pubescent and not glabrous.

KEY TO THE SPECIES OF *HOMALIUM* IN LIBERIA

1. Stamens with 2 or 3 together by each petal; leaves up to 4 cm wide; petals up to 5 mm long; in Liberia only known from river side near Greenville *H. angustifolium* Sm.
— Stamens solitary by each petal; leaves often exceeding 4 cm wide; petals often longer than 5 mm 2
2. Inflorescence axillary or sub-terminal, simple; leaf base cuneate, leaf blade glabrous or only with hairs on and near the midrib below *H. longistylum* Mast.
— Inflorescence branched, mostly terminal; leaf base cuneate or not, leaf blade hairy below or not 3
3. Leaf base cuneate, 4-7(-9) pairs of secondary veins, leaf almost glabrous 4
— Leaf base obtuse to cordate/auriculate, often with more pairs of secondary veins, glabrous to clearly hairy 5
4. Leaves 3.5-8 × 1.5-3.5 cm; disk-glands between stamens densely hairy *H. coriaceum* Jongkind, sp. nov.
— Leaves 6-18 × 3-10 cm; disk-glands between stamens glabrous *H. smythei* Hutch. & Dalziel
5. Petals hardly accrescent, up to 4 mm long; flowers in dense compact clusters along the inflorescence axes; leaf blade densely short pilose below to glabrous *Homalium africanum* (Hook.f.) Benth.
— Petals clearly accrescent and longer; flowers usually more spaced, often with two together; leaf blade glabrous or hairy below but never densely short pilose 6
6. Leaf base widely cordate to auriculate; blade (almost) glabrous and 12 - 30 cm long; secondary veins near leaf base not closer together than those far from the base *H. le-testui* Pellegr.
— Leaf base obtuse or slightly cordate; blade often smaller and often clearly hairy; secondary veins near leaf base often closer together than those far from base 7
7. Leaf blade densely tomentellous all over the lower surface *H. lastoursvillense* Pellegr.
— Leaf blade with only a few hairs between the nerves on the lower surface *H. stipulaceum* Welw. ex Mast.



FIG. 1. — *Homalium coriaceum* Jongkind, sp. nov.; **A**, shoot; **B**, leaves, with domatia visible as small bumps; **C**, bark; **D**, flowers. **A-C**, Jongkind 14529; **D**, J-G Adam 27392. Photos C. Jongkind. Scale bar: D, 1 cm.

TYPUS. — Liberia. Grand Bassa County, Buchanan, dans la forêt côtière près de mangrove, fl., 3.V.1973, J-G Adam 27392 (holo-, BR[BR0000015978936]; iso-, L[L.2465627], WAG[WAG0295160]).

PARATYPES. — Liberia. Grand Bassa County, Goe Range, 6°162'N, 10°172'W, 100 m alt., ster., 10.V.2022, Jongkind 14529 (BR, P, WAG); Montserrado County, Monrovia, Arboretum Paynesville, fl., 29.IV.1969, Voorhoeve 266 (WAG).

DISTRIBUTION AND ECOLOGY. — Liberia, between Monrovia and Buchanan in patches of forest in coastal savannah and in closed forest on nearby hills.

CONSERVATION STATUS. — On base of the three specimens cited here the EOO of *H. coriaceum* sp. nov. is 761 km² and the AOO is 12 km² (based on a cell width of 2 km), both count as “Endangered” (EN). However, the new species is found in a part of Liberia that is quickly becoming more densely populated



FIG. 2. — *Homalium coriaceum* Jongkind, sp. nov.; holotype BR0000015978936. Photo Botanic Garden Meise.

and around the original location of the two oldest specimens there is today not much original vegetation left anymore. From “Arboretum Paynesville” (*Voorhoeve 266*) there is no trace left, this area is part of Monrovia now, and Buchanan is not a village anymore but a town with a large harbour area where the iron ore from Nimba County arrives by train. At the site where *H. coriaceum* sp. nov. is most recently seen, the Goe Range, many of the larger trees have been cut down in recent years and the ridge is part of a mining concession. From the three cited location there is today only one left and that one is threatened. The species is therefore provisionally assessed as “Critically Endangered”, CR B1ab(i, iii)+2ab(ii, iii, iv, v) using the IUCN 2012 standard.

DESCRIPTION

Medium size tree to 30 cm dbh; bark shallowly fissured, below the surface with pale orange-brown streaks; twigs glabrous. Leaves alternate, glabrous except for the hairy domatia; blade almost elliptic, 3.5–8 × 1.5–3.5 cm, coriaceous; margin crenulate; base attenuate; apex acuminate; 4–6 pairs of secondary veins, tertiary nervation conspicuously reticulate below, less so above; domatia visible at upper leaf surface as small bumps; petiole 7–12 mm long, slightly winged; stipules early caducous. Inflorescence a laxly branched panicle, up to 12 cm long, axis puberulous; dropping flowers leaving *c.* 1 mm long pegs on the inflorescence axis. Flowers bisexual, 6–7-merous; sepals oblong-lanceolate, *c.* 1 mm long; calyx cup 2 mm high, pubescent; petals spatulate, up to 8 × 3 mm, appressed-pubescent on both sides; stamens solitary by each petal; filaments *c.* 3 mm long, with erect hairs on the lower half; anthers broadly ellipsoid, 0.25 mm, 2-celled; disk-glands between stamens velutinous; styles 6–7, *c.* 3 mm long, for the larger part united, pubescent; ovary semi-inferior.

NOTES

The most recent collection of the new species shows that it not only grows in the coastal savannah, where the first two specimens were found, but also in the closed forest on the hills slightly more inland. In this it differs from several other species endemic to this coastal area, like *Dinklagedoxa scandens* Heine & Sandwith, *Englerodendron libassum* Jongkind & Breteler, *Eugenia liberiana* Amshoff, *Fegimanra acuminatissima* Keay and *Trichoscypha laxissima* Breteler, because these are only known from the coastal savannah on old beach sand (Jongkind & Breteler 2020).

In most African *Homalium* species the petals are accrescent and act like small wings for the fruits, the maximum size of these petals is often characteristic for a species. The petals usually start to expand very quickly after the flower

opens and the other flower parts are persistent in fruit, this makes it hard to see what is still a flower and what is a fruit.

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