

ASPIDOSPERMA HELSTONEI (APOCYNACEAE), A NEW SPECIES FROM SURINAM

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SUMMARY

Aspidosperma helstonei Van Donselaar, a new species of the Apocynaceae, does not show close affinity to any other species nor matches any of the nine series distinguished by WOODSON (1951) in his interim revision of the genus. It was collected in a very limited area in Surinam, now forming part of the artificial Brokopondo-lake. A description of the wood anatomy, by Dr. A. M. W. Mennega, is added.

Aspidosperma helstonei VAN DONSELAAR spec. nov.

Arbor sempervirens laticem album exudens. Folia sparsa. Lamina oblonga, apice acuto ad breviter acuminato, basi obtusa; sparsim puberula. Venae secundariae circ. 35 non ramificantes, vena marginali connexae. Inflorescentiae terminales et extra-axillariter laterales, circ. ter dichasiales ad subumbellatae, floribus circ. 60. Ramuli, costae et pedunculi fulvo-tomentelli. Pedicelli crassi, 1½–2 mm longi. Calyx 2 mm altus, 2½–3 mm latus, 6–7-merus; sepala late rotundata, valde inaequalia, 1–2 mm alta, parte inferiore carnosae, externe puberula. Corolla tubuliformis, 6 mm alta, aurantiaca, nigrescens. Stamina in parte tertia superiore tubi inserta, antherae sagittatae. Pars inferior ovarii calyci adnata, styli breves. Folliculi compressi, circumscriptione obliquo-obovati, breviter stipitati. Semina ovalia, ala papyracea concentrica conformi.

TYPE: Surinam, E bank of Surinam River, just SW of Redi Doti, 27-VII-1964, Van Donselaar 1487 (flowering) [holotype U, isotypes BBS, K, NY].

Paratypes: Surinam, W bank of Surinam River opposite Kofikampoe (Koffiekamp), 29-VII-1964, Van Donselaar 1499 (with young fruits) and 1550 (mature fruits) [U].

Other specimens, all from Surinam: Bank of Sara Creek between Adjama and Abontjeman, 13-III-1964, Van Donselaar 1045, sterile tree [U]; W bank of Surinam River 1 km S of Waktibasoe, 19-IV-1964, Van Donselaar 1092, small sterile tree [U]; idem, 8-IV-1964, Van Donselaar 1129, small sterile tree, with wood sample Uw 10827 [U].

Evergreen tree to 30 m tall with white latex and bitter bark. Leaves alternate. Petiole terete, slightly caniculate, 5–9 mm long. Leaf blade oblong, 7–12 × (3)4–4½ cm, coriaceous, upper side slightly shining, lower side dull; top acute to shortly acuminate, base obtuse. Costa prominent at the back; lateral veins in

* The present study was carried out during the author's connection with the Instituut voor Systematische Plantkunde, Utrecht, Netherlands.

± 35 pairs, prominulous on both sides, thicker ones alternating with one or two thinner ones, slightly curved at their end, connected by a vein at or up to $\pm \frac{1}{2}$ mm from the margin; tertiary venation inconspicuous, reticulate, the meshes elongate. (Leaf blades of not full-grown specimens in the shade of the forest may attain 17×7 cm, with 50 pairs of lateral veins.) Leaf-blades on both sides sparsely appressed short-hairy, except the costae that, like the twigs, petioles and branches of the inflorescences, are covered by an indument of short simple and branched to stellate fulvous hairs. Inflorescences terminal and lateral, extra-axillary, near the tips of the leafy branches, $2-4\frac{1}{2}$ cm in diameter, dichasial to subumbellate, primary peduncle (5)10–12 mm, secondary and tertiary (quaternary) peduncles at \pm right angles, (3)8–17 mm, further branches short and aggregate, altogether ± 60 -flowered. Pedicels terete or conical, $1\frac{1}{2}-2$ mm long, 1–2 mm thick, fulvous-puberulent. Bracts reduced to a narrow rim. Flowers ± 7 mm long. Calyx 2 mm high, $2\frac{1}{2}-3$ mm wide, 6–7-merous; sepals very unevenly arranged in more than one whorl, all broadly rounded, thick and fleshy at the base, for the rest very unequal in shape and size, 1–2 mm high, puberulent except in the top-zone of the ± 3 largest ones. Corolla tubular, ± 6 mm long, at first bright orange, turning black; tube 2 mm long, 1 mm wide, outside the upper $\frac{2}{3}$ densely puberulent, inside the lower $\frac{2}{3}$ villous; lobes loosely spirally contorted in the bud, in anthesis erect, 4 mm long, lanceolate, thick, the margins and rounded top cucullate-incurved, central zones pubescent in at least the lower $\frac{2}{3}$ of the outside and the lower $\frac{1}{2}$ of the inside; throat somewhat thickened, pubescent. Stamens inserted in the upper $\frac{1}{3}$ of the corolla-tube; anthers up to 1 mm long, sagittate, basifixed, versatile. Ovary for the greater part immersed in and adnate to the fleshy bottom of the calyx, 1 mm high, 1.2 mm wide; styles short and recurved. Follicles two, woody, compressed, 2 cm thick, in outline obliquely obovate, $7-8 \times 5-5\frac{1}{2}$ cm, shortly stipitate, brown with paler punctuation, each with 7–13 seeds. Seeds \pm oval, with papery, nearly concentric wing, up to $7\frac{1}{2} \times 5$ cm; embryo \pm oval, up to 2 cm; funicle up to 2 cm.

Wood medium yellowish brown, straight-grained, very hard and heavy.

Microscopical features. Vessels: Exclusively solitary, scattered, on the average 22 (20–24) per square mm, circular in cross-section, diameter mostly 60–80 μ , perforations simple, intervacular pits very scarce, small (4 μ). Fibres: Non-septate, very thick-walled, diameter 16–20 μ , lumen 2–3 μ , small bordered pits numerous on both radial and tangential walls. Rays: Uni-seriate and 2–3-seriate, homocellular or nearly homocellular, both types in about equal numbers; total number 14–16 per mm. The multi-seriates occasionally with short, but often with rather long uniseriate wings of 5 or more cells; width 24–30 μ , height mostly from 400–600 μ . The individual procumbent cells about 120 μ long and 10–12 μ high, the walls thick and heavily pitted, rhombic crystals sometimes present. Pits-to vessels small, 4 μ . Parenchyma: Exclusively apotracheal in numerous one cell wide, short bands and in isolated strands, forming an irregular network; strand of 8 cells, crystal-bearing strands present. (This description was kindly provided by Dr. A. M. W. Mennega.)

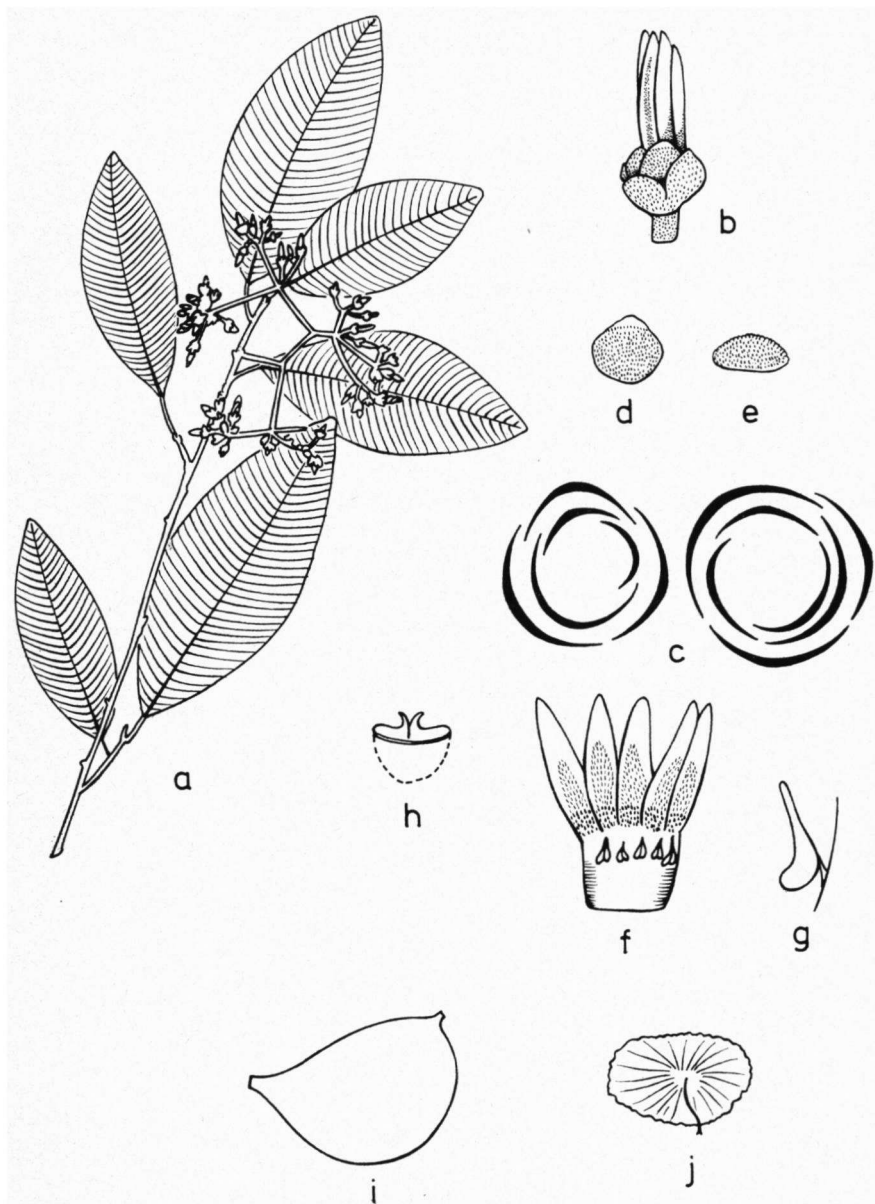


Fig. 1. *Aspidosperma helstonei* van Donselaar. a: branch with leaves and inflorescence ($\frac{1}{2} \times$); b: flower ($5 \times$); c: two diagrams of the calyx; d and e: largest and smallest sepal ($5 \times$); f: opened corolla ($5 \times$); g: anther ($15 \times$); h: pistil ($10 \times$); i: follicle ($\frac{1}{2} \times$); j: seed with funicle ($\frac{1}{2} \times$). a-h Van Donselaar 1487; i-j Van Donselaar 1500.

The species does not fit one of the nine series distinguished by WOODSON (1951) in his interim revision of the genus, nor does it show a close affinity to any of the new species described since. The 6–7-merous calyx, the orange to black corolla and the shape and implantation of the pistil, in combination with the place of the inflorescences, give it a quite isolated position.

The species is named after Mr. E. M. C. Helstone from Paramaribo, retired tree-spotter of the Suriname Forest Service. As an employee of this service and as a participant in several expeditions and investigations of other organizations he contributed materially to the botanical exploration of Surinam, in particular thanks to his unrivalled experience and knowledge of its forest flora. Mr. Helstone, in fact, at that time a member of the team which collected the present species, recognized it as something peculiar.

Beside in the localities cited the species was observed in several more places along the lower course of the Sara Creek and the Surinam River as far South as Gansee, relatively concentrated in the low-lying forests near the debauching of the Sara Creek into the Surinam River. The whole of the area had an elevation of less than 25 m above sea level.

The species occurred, sometimes as one of the leading trees, in the canopy of riverbank and creek forest, both types of forest subject to inundation during the rainy season (April–July).

The vernacular name used by the Saramaccan bushnegro tribe, which lives along the Surinam River, is *Sarakriki-pinpin* (pronounced as Saracreekee pingping), whereas the Aucan bushnegro tribe, the territory of which includes the Sara Creek basin, calls it *Gombe*.

At present the whole of the area mentioned above has turned into the artificial Brokopondo lake. Not one of the observed specimens of *Aspidosperma helstonei* survived. However, the fact that several Aucan people from the Tapanahony River in the Southeast of Surinam recognized the tree and also called it *Gombe*, suggests that the area of the species extends farther to the South.

ACKNOWLEDGEMENT

The author is indebted to Dr. A. M. W. Mennega for her help during the preparation of this publication and to Dr. K. U. Kramer for the correction of the English text and Latin diagnosis.

REFERENCE

- WOODSON JR., R. E. (1951): Studies in the Apocynaceae. VIII. An interim revision of the genus *Aspidosperma* Mart. & Zucc. *Ann. Missouri Bot. Gard.* **38**: 119–206.