

## THE LOGANIACEAE OF AFRICA <sup>1)</sup>

### IV. STRYCHNOS I.

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(received Dec. 11th, 1961)

#### INTRODUCTION

The present paper consists of some short introductory notes to the revision of the African species of *Strychnos*. These notes are published before the completion of the revision as they are required for the new keys to the *Loganiaceae* (*Strychnos*) in the revised edition of the Flora of West Tropical Africa for which the author coöperates with Mr. C. F. A. ONOCHIE of the Ibadan Herbarium.

Two new species, described by Mr. ONOCHIE and Mr. F. N. HEPPEL, will be published in the Kew Bulletin in conjunction with the present notes on *Strychnos*.

#### PRACTICAL REMARKS FOR IDENTIFICATION

*Strychnos* species are lianas, shrubs, or trees. Except for two species, *S. congolana* Gilg and *S. usambarensis* Gilg, they always are either a liana or a tree; lianas or trees may develop from a shrub-like juvenile stage. Lianas—if young and shrubby—have tendrils, but as not every branch is provided with them, they may be missing in herbarium specimens. The terms “branches” and “branchlets” are used as defined by KRUKOFF & MONACHINO (*Brittonia* 4: 254. 1942): “By the term “**branchlets**” is meant the year’s growth at the time of collection; by “**branches**” the preceding growth.” On fruiting inflorescences dry calyces may persist, with pistils useful for identification. Very often the fruits are small, 1-3 cm in diam., thin-walled, and 1-2(7)-seeded, or large, 5-12.5 cm in diam., thick-walled, and about 20-70-seeded. Among the West African species, however, *S. chrysophylla* Gilg is intermediate in these characters as it has thin-walled, 3-6-seeded fruits which are 4-5 cm in diam. All West African species have 2-celled ovaries with one axial placenta attached to the septum in each cell, except for *S. spinosa* Lam. that has an 1-celled ovary with a basal placenta. If the fruits are small, thin-walled and 1-2(7)-seeded, there are few, 4-10(15) ovules on each placenta, and if the fruits are large, thick-walled, and 20-70-seeded, there are many, (18)25-50 ovules on each placenta. The placenta of the large-fruited *S. spinosa* Lam. bears many, about 50-100 ovules.

<sup>1)</sup> Continued from *Acta Bot. Neerl.* 10: 1-53, 460-465. 1961 and *Meded. Landbouwhoges. Wageningen* 61 (4): 1-31. 1961.

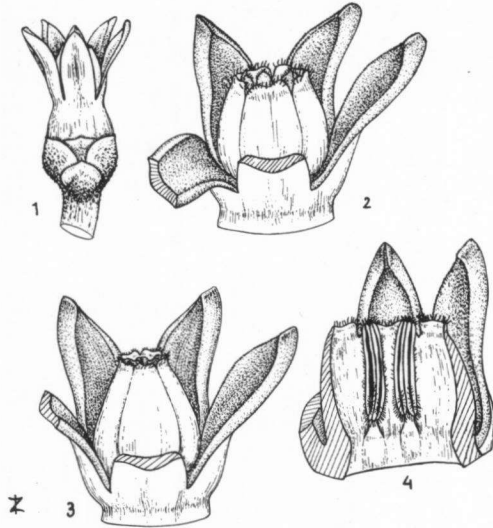


Fig. 1. *S. camptoneura* Gilg: 1. flower, 2 ×; 2-3. apex of flower, 4 ×; 4. apex of corolla inside, 4 ×. (1-2, 4: Breteler 1332 (WAG); 3: Le Testu 1331 (P)).

#### THE TAXONOMIC POSITION OF SCYPHOSTRYCHNOS

***Strychnos camptoneura*** Gilg et Busse in Engl. Bot. Jahrb. 36: 93. 1905; in Wiss. Ergebn. Zw. Zentr.-Afr. Exp. 62. 1922. **Fig. 1.**

Type: West Cameroun: Victoria, Buchholz s.n. July (holotype not seen, destroyed in B; no isotype seen).

Heterotypic synonyms: *Scyphostrychnos talbotii* S. Moore in Cat. Talbot's Nigerian Pl. 71, pl. 10. 1913, non *Strychnos talbotiae* S. Moore, l.c. p. 69. Type: Nigeria: Calabar Province, Oban, Talbot 1664 (BM, holotype; isotype: Z).

*Scyphostrychnos psittaconyx* Duvign., Bull. Class. Scienc. Sér. 5. 34: 98, f. 1. 1948. Type: Congo: Orientale, Yangambi, Isalowe F.R., Louis 3429 (BR, holotype, 2 sheets; isotype: FHO).

*Scyphostrychnos* is reduced here to a synonym of *Strychnos* as the only differential character, the typical corona, also is found, although in a less distinct form in *Strychnos congolana* Gilg which undoubtedly belongs in this genus. The corona of some specimens of *Scyphostrychnos* is lobed (e.g. Onochie FHI 15529 (K), Kennedy 2220 (FHO), and Breteler 1332 (WAG)), or not lobed (e.g. Le Testu 1331 (P)). It is contracted at the mouth and easily torn lengthwise by pressing. The corolla lobes are thicker than the tube and so the corolla mostly will be folded between them causing the corona to tear along the line of separation of the corolla lobes. The lobes of the lobed corona have a truncate (not acute as erroneously figured by S. MOORE) apex with exactly the same undulation and ciliation as the margin of the entire corona.

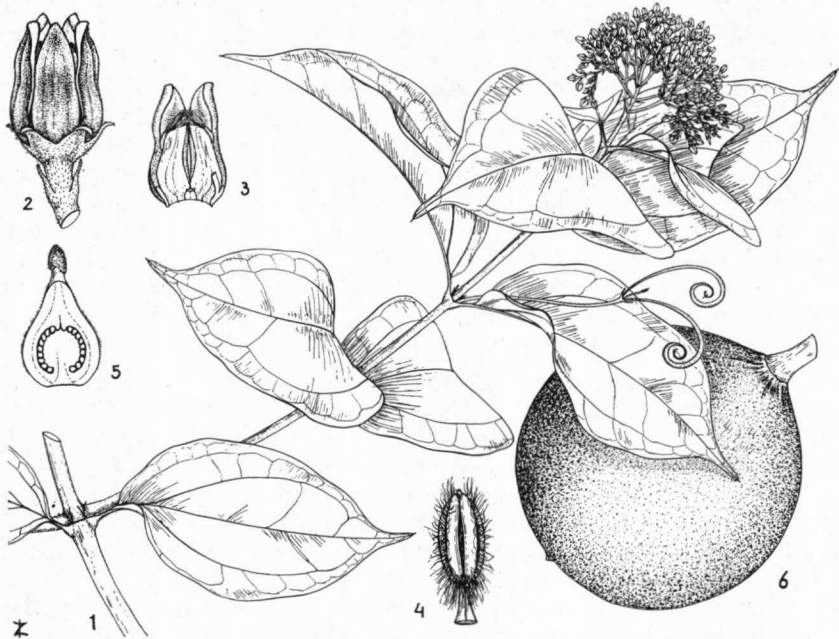


Fig. 2. *S. congolana* Gilg (Leeuwenberg 3146 (WAG, with spirit coll.)): 1. branch with linear stipules,  $\frac{1}{2} \times$ ; 2. flower,  $4 \times$ ; 3. longitudinal section of corolla inside with bases of filaments; lobes inside partially united by corona,  $4 \times$ ; 4. stamen,  $8 \times$ ; 5. longitudinal section of ovary,  $8 \times$ ; 6. fruit,  $\frac{1}{2} \times$ .

As is stated and figured by DUVIGNEAUD various species of *Strychnos* have a ring of hairs in the throat. In *S. congolana* Gilg this ring is placed on a narrow entire corona situated on the corolla throat exactly as in *Scyphostrychnos*. Finding this character in a species that differs totally by its lanceolate instead of orbicular sepals the present author supposes that *Scyphostrychnos* can be maintained as a section of *Strychnos*.

After comparison of the types of both *Scyphostrychnos* species and several other specimens of these taxa it was absolutely impossible to segregate them. All suggested differential characters appear to be variable. The leaves vary far more in size and in number of secondary veins than is supposed by DUVIGNEAUD; the inflorescence may be congested (e.g. Onochie FHI 15529 (K) and Louis 380 (BR,K)) or lax (e.g. Breteler 1332 (WAG) and Le Testu 1331 (P)); the sepals of the type of *S. talbotii* are rounded and not acute as erroneously figured by S. MOORE; the corolla tube that is more or less swollen straightens out by drying.

Finally GILG described *S. camptoneura* as a liana with large leaves—blade  $13-19 \times 6-8$  cm—, tendrils, broken immature thin-walled fruits, and large discoid seeds, 3.5 cm wide and 2-3 mm thick. The leaves agree in all characters with those of *Scyphostrychnos*. The fruits

of the Louis' collections from Yangambi, Orientale, Congo, on which DUVIGNEAUD based *S. psittaconyx*, have a thick wall of three layers, the outer and inner thin, about 1 mm thick when dry and the central softer, about 1–2 cm thick, and more shrunken when dry. The present author supposes that GILG had only the outer layer. The seeds of Louis 5984 (BR), the only specimen with mature fruits, are discoid, 5 cm wide and 5 mm thick when living. In the dry fruit they are somewhat shrunken. The fruit of Buchholz's specimen is immature by which the seeds did not yet reach their size. The seeds of other large-fruited species, e.g. *S. aculeata* Solered., *S. densiflora* Baill., and *S. nigritana* Bak., are obliquely ovate-orbicular and smaller, up to 3.5 cm long and 2.5 cm wide.

The species is characterized as follows:

Large liana, up to 45 m high in forest trees, glabrous, dark brown or black when dry. Trunk 2–15 cm in diam. Wood hard. Branches unarmed, not or hardly lenticellate; branchlets not lenticellate. Tendrils in 2 pairs above each other on short lateral branchlets. Leaves: petiole 7–17 mm long; blade coriaceous or thinly coriaceous, also when living, elliptic, oblong-elliptic, or on the main stem sometimes ovate, larger and comparatively narrower towards the apices of the branchlets, 1.5–2.7 × as long as wide, 6–22 × 3–10 cm, acute or shortly acuminate at the apex, cuneate or rounded at the base; the basal pair of secondary veins often inconspicuously larger than the others and mostly not more distinct. Inflorescence axillary or occasionally terminal, lax or congested, paniculate, shorter than the leaves. Flowers 5-merous. Sepals orbicular, 3–3.5 mm long, rounded at the apex, minutely ciliate. Corolla in the mature bud 3–4 × as long as the calyx, 8–11.5 mm long, and rounded at the apex, yellow or yellowish, thin at the base, thicker at the apex, outside glabrous, inside on the throat with a greenish-white or yellowish minutely ciliate undulate or more or less distinctly 5-lobed corona that is contracted at the mouth; corona lobes—if present—truncate and only at the apex undulate and minutely ciliate; corolla tube campanulate or cylindrical, 1.5–2 × as long as the calyx, about as long as the lobes, 4–6 mm long; lobes thick, triangular-ovate, spreading. Stamens included in the corona; filaments very short, inserted on the mouth of the corolla; anthers lanceolate, ciliate all around or only at the base. Ovary ovoid, glabrous, 2-celled; style glabrous. In each cell one axial placenta with about 40 ovules, attached to the middle of the septum. Fruit large, yellow, globose or slightly pear-shaped, up to 16 × 12 cm, thick-walled; wall 1.5–3.5 cm thick when living, in three layers, outer and inner about 1 mm thick, central softer, about 1–2 cm thick when dry. Seeds discoid, 5 cm wide and 5 mm thick, when living.

Distribution: Nigeria, Cameroun (West and East), Oubangui-Chari, and Congo.

Ecology: Rain forests at low elevations.