

# THE NATAL SPECIES OF THE SAPINDACEAE.

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DURING a short stay in Durban in January, 1919, I saw for the first time, in their native state, species of *Sapindaceae* growing in the Stellabush. This led me to make an examination of the material in the Natal Herbarium, and at the same time I took the opportunity of describing the species. To make the records more complete than it was possible to do from the material in the Natal Herbarium alone, all the Natal specimens in the Bolus Herbarium and Cape Government Herbarium at Capetown and the National Herbarium, Pretoria, were examined. This has added considerably to the Natal localities in which the species occur.

Twelve genera of the order *Sapindaceae* have been recorded from South Africa, and of these nine occur in Natal. Wood, in his "Handbook to the Natal Flora" (1907), cites sixteen Natal species, but he eventually dropped *Schmidelia natalensis* in his "Revised List of the Natal Flora." Of the fifteen species mentioned by Wood, only ten are represented in the Natal Herbarium, and of those unrepresented I have not seen specimens from Natal in any other herbarium.

The examination of the material has brought to light an undescribed *Bersama* which occurs in Natal, and I am of opinion that *Bersama tysoniana* also occurs there, though I have seen no Natal specimen.

## KEY TO THE GENERA.

- Stamens eccentric. Fruit bladderly. A twiner..... *Cardiospermum.*
- Stamens not eccentric. Fruit membranous, fleshy, coriaceous, or winged.
  - Trees or shrubs.
    - Whole plant densely villous with stellate hairs; leaflets deeply incised..... *Melianthus.*
    - Plants most glabrous; leaves or leaflets never deeply incised.
      - Leaves broadly ovate, palmately lobed; flowers scarlet..... *Greyia.*
      - Leaves or leaflets lanceolate or elliptic; flowers greenish or whitish.
        - Leaves simple.
          - Fruit almost globose, coriaceous..... *Allophylus.*
          - Fruit flattened with membranous wings..... *Dodonaea.*
        - Leaves compound.
          - Leaflets unequal-sided; rachis with broad or narrow wings.
            - Young branches, leaf rachis, and inflorescence densely tomentose..... *Hippobromus.*
            - Plant glabrous or almost so..... *Pteroxylon.*
          - Leaflets not unequal-sided; rachis not winged, or only winged in the uppermost segment.
            - Leaves trifoliate; sepals glabrous, pedicels 1 mm. long..... *Allophylus.*
            - Leaves pinnate, if trifoliate then pedicels 1 cm. long; sepals hairy.
              - Inflorescence a panicle up to 43 cm. long.... *Sapindus.*
              - Inflorescence a raceme up to 17 cm. long..... *Bersama.*

## CARDIOSPERMUM LINN.

**C. halicacabum** Linn.

A herbaceous climber. *Stems* deeply five-furrowed with prominent ridges, scantily pubescent. *Leaves* 3-6 cm. long, trifoliate, each leaflet of the first order digitately divided into three leaflets of the second order; petiole 1.5-1.8 cm. long, furrowed, pilose; petiole of leaflets 8-11 cm. long, similar to the petiole of the leaf; ultimate leaf-segments 1.5-2.5 cm. long, 0.5-1.3 cm. broad, ovate or ovate-lanceolate, acute, hirsute above, glabrous beneath except on the veins, with the margins deeply cut into 2-3 lobes. *Inflorescence* a compound umbel with three principal peduncles, axillary; primary peduncle 3-7.2 cm. long, four-angled, pilose, and bearing at the apex two spirally-coiled tendrils; secondary peduncles 8-1.7 cm. long, scantily pubescent. *Sepals* unequal; the smaller 2 mm. long, 2 mm. broad, ovate, rounded above, glabrous; the larger 5 mm. long, 2-5 mm. broad, obovate, obtuse. *Petals* similar to the larger sepals. *Stamens* eccentric; staminal tube 1-5 mm. long; free portion of filaments 2.5-3 mm. long, linear, glabrous, sometimes ciliated; anthers 0.75 mm. long, oblong. *Ovary* 3 mm. long, eccentric, consisting of three carpels with a broad dorsal wing and a narrow ventral wing; style none; stigmas three, ovate, concave. *Torus* between the stamens and ovary produced into two blunt lobes 5 mm. long. *Fruit* 2-3-celled bladderly capsule with a single seed in each cell; the valves not veined and pubescent with bulbous base hairs. *Seeds* black, 4 mm. long, 3-5 mm. broad, somewhat globose, glabrous. *Sonder in Harv. and Sond., Fl. Cap., 1, 237, Bot. Mag., t. 1049.*

*Natal*: Verulam, March, *Wood* 483, and in *Colonial Herb.* 6795, without locality, *Sanderson, Gueinzuis.*

DISTRIBUTION: Rhodesia, Pondoland, Transvaal, Bechuanaland Protectorate.

## MELIANTHUS LINN.

**M. villosus** Bolus.

A herbaceous shrub. All parts densely covered with stellate hairs. *Branches* tomentose. *Leaves* petioled, compound, paripinnate, 5-7-jugate, 8-19 cm. long; petiole 3.2-5.5 cm. long, densely villous; leaflets 2.5-7.5 cm. long, 6-3 cm. broad, lanceolate, subacute, slightly narrowed at the base, densely villous, with the margins deeply and acutely serrate; stipules 2.2 cm. long, 4 mm. broad, ovate-lanceolate, long acuminate, acute, densely villous. *Inflorescence* a terminal raceme 28 cm. long. *Peduncle* 12 cm. long, densely villous. *Bracts* 2.3 cm. long, 1.2 cm. broad, ovate, long acuminate, pubescent. *Pedicels* 2 cm. long, terete, villous. *Sepals* unequal; lateral sepals 2.6 cm. long, 1.3 cm. broad, elliptic, obtuse, tomentose within and without; anterior sepal 1.6 cm. long, 1 cm. broad, boat-shaped, ovate in outline, long acuminate, densely tomentose. *Petals* 1.9 cm. long, 2-3 mm. broad, linear, three-lobed above, densely pilose on the upper half, with the middle lobe tongue-shaped; the lateral lobes smaller, sometimes rudimentary. *Disc* in the form of flat fleshy glands 4-5 mm. long, 2 mm. broad, truncate at the apex. *Filaments* 6-9 mm. long, subterete, pilose; anthers 4.5 mm. long, 2 mm. broad, oblong. *Ovary* 4 mm. long, pyramidal in outline, four-angled, glabrous, four-celled, each cell containing many ovules; style 5 mm. long, subterete, somewhat falcate, narrowing to a blunt point, pubescent; stigma simple.

*Natal*: Rocky Hill, South Downs, 4000-5000 ft., December, *Wood* 1008, 4376, and in *Natal Govt. Herb.* 5133.

DISTRIBUTION: Elands River Valley, near Mont-aux-Sources.

*M. insignis*, O. Kuntze. I have not seen specimens of this species, but from the short description given by Kuntze (*Rev. Gen.* III, 43) it may possibly be the same as *M. villosus* Bolus.

## GREYIA HOOK. AND HARV.

**G. Sutherlandi** Hook. and Harv.

A moderately sized tree (*Wood*). *Branches* glabrous. *Leaves* simple, petioled, 4–10 cm. long; petiole 1–4 cm. long, somewhat compressed, glabrous, dilated and amplexicaul at the base; lamina 3–7 cm. long, 2–8 cm. broad, ovate, obtuse, somewhat cordate at the base, glabrous, 8–9-lobed with the lobes coarsely toothed, palmatinerved with distinct veins. *Inflorescence* a dense raceme, 7–11 cm. long, 3·5–5 cm. broad. *Bracts* 1 cm. long, 5 cm. broad, lanceolate, obtuse. *Pedicels* 1·5 cm. long, terete, glabrous. *Sepals* 5 mm. long, 3 mm. broad, ovate, obtuse, glabrous, connate at the base. *Petals* red, 1·15 cm. long, 5·5 mm. broad, oblong, concave, rounded at the apex, glabrous, shortly ciliated. *Disc* basin-shaped, with a rim 2 mm. deep and produced into ten processes 2 mm. long, each bearing a flattened anther-like structure at the apex. *Filaments* reddish, 9·2 cm. long, terete, glabrous; anthers 3 mm. long, oblong. *Ovary* 7 mm. long, 3·5 mm. broad, ovoid, subapocarpus, five-celled, each cell containing numerous ovules; style 5 mm. long, gradually narrowed above, minutely five-toothed at the apex, glabrous. *Harv. Thes. Cap. t. 1, Harv. in Harv. and Sond. Fl. Cap. II, 309; Wood, Natal Plants t. 373.*

*Natal*: Polela, June, *Fernando*, 83; and in *Natal Govt. Herb.* 10470; Ixopo, September, *Fannin in Natal Herb.* 16241; Inanda, 2000 ft., *Wood in Natal Govt. Herb.* 95; Van Reenens Pass, 5800 ft., November, *Wood* 4691; without precise locality, *Sutherland*.

DISTRIBUTION: Orange Free State, Tembuland, Stutterheim, Transvaal.

## ALLOPHYLUS LINN.

Leaves simple..... *monophylla*.

Leaves trifoliolate.

Leaflets lanceolate; petiole glabrous; stigmas linear..... *erosa*.

Leaflets mostly elliptic; petioles pubescent; stigmas ovate..... *africana*.

Leaflets obovate or oblanceolate; petioles pubescent; stigmas linear... *decipiens*.

**A. monophyllus** Radkl.

A large spreading shrub or small tree, 10–30 ft. high and up to 12 in. stem diameter (*ex Sim*). *Branches* with minute mealy pubescence and greyish bark. *Leaves* simple, petioled, 2·5–2·3 cm. long, 2·5–8 cm. broad, elliptic, lanceolate, or ovate, acuminate, subobtuse, slightly narrowed or more rarely subrotund at the base, glabrous above and beneath, sometimes with tufts of hairs in the angles of the lateral veins beneath, darker above, with coarsely serrated margins; petiole 1·3–5 cm. long, terete, minutely pubescent or almost glabrous. *Inflorescence* a raceme, 4–17 cm. long, sometimes the flowers in groups of two on short secondary peduncles. *Peduncles* 1·5–5 cm. long, terete, minutely pubescent or glabrous. *Pedicels* about 1·5 cm. long. *Sepals* unequal, the smaller 1·5 mm. long, 1 mm. broad, elliptic, rounded above, deeply concave, glabrous; the larger 2 mm. long, 1·75 mm. broad, subrotund, concave, glabrous. *Petals* 2 mm. long, spatulate, densely bearded within. *Filaments* 2·5 mm. long, linear, pilose; anthers 4 mm. long, oblong. *Ovary* 1 mm. long, 2 mm. broad, didymous, pubescent; style 0·75 mm. long, terete, glabrous; stigmas 0·75 mm. long, linear, divergent. *Fruit* 9 mm. long, 7 mm. in the diameter, obovate in outline, slightly narrowed at the base, glabrous. *Schmidelia monophylla*, *Presl. Fl. Cap. I, 239. Sim, Forests and Forest Floras, 170, Pl. XXXII, Fig. 3, S. dregeana, Sond. in Harv. and Sond. Fl. Cap. I, 239.*

Without precise locality, Gerrard and McKen. 525, and in *Natal Govt. Herb.* 726.

*Natal*: Inanda, April, *Wood*, 481, and in *Colonial Herb.*, 5678, Ifafa, August (in fruit), *Lansdell in Natal Herb.* 16126; Imont, *Wood*, 2468; edge of bush at Spring Grange, c., 800 ft., April, *Wood, in Natal Govt. Herb.*, 11248; without locality, *Pappe*.

*Zululand*: Qudeni Forest, 6000 ft., February, *Davis* 118, and in *Natal Govt. Herb.*, 8700.

DISTRIBUTION: Komgha, Kentani, East Pondoland.

**A. erosus** Radkl.

A shrub 4-12 ft. high (ex *Sim*). *Branches* glabrous with wrinkled greyish bark. *Leaves* petioled, trifoliate, 6-12 cm. long, petiole 2-3 cm. long, channelled above, glabrous; leaflets sessile, 3-8.5 cm. long, 9-2.6 cm. broad, lanceolate, obtuse, narrowed at the base, glabrous, minutely punctate beneath, with the margins coarsely and bluntly serrate. *Inflorescence* an axillary panicle, 4-7 cm. long, the flowers ultimately cymose in groups of 2-4; peduncle grooved, minutely pubescent or almost glabrous. *Pedicels* 1 mm. long, glabrous. *Sepals* unequal, 1 mm. long, 0.75 mm. broad, obovate, rounded above, concave, glabrous. *Petals* white, 1 mm. long, 0.75 mm. broad, obovate, subrenate and almost truncate at the apex, densely bearded within. *Filaments* (in young flowers) 0.75 mm. long, linear, pilose; anthers 5 mm. long, oblong in outline. *Ovary* 1 mm. long, 1.5 mm. broad, obovate, in outline, pubescent; style 1 mm. long, terete, glabrous; stigmas 1 mm. long, linear, obtuse, divergent. *Fruit* 5 mm. long, 5 mm. in diameter, globose, narrowed at the base, finely and scantily pubescent, at length glabrous. *Schmidelia erosa* Arn. *Sond. and Harv. Fl. Cap. I*, 239. *Sim, Forests and Forest Flora*, 169, *Pl. XXXII*, *Fig. 1*. *S. natalensis*, *Sonder in Harv. and Sond. Fl. Cap. I*, 239.

*Natal*: Back Beach Bush, near Durban, 20 ft., April, *Wood, in Natal Govt. Herb.*, 11249. Durban, April, *Wood* 898, 7841, 10964, and *in Colonial Herb.*, 5693. Catos Creek, May (in fruit), *Wood in Natal Govt. Herb.*, 2469. Umgeni, August (in fruit), *Native Collector in Natal Herb.*, 16218. Port Shepstone, April, *Brown* 422; without locality, *Saunders*; Berea, *Wood*.

*Sim* states: "Abundant along the coast, and especially on the coast dunes from the Fish River to Natal; not found inland. This species is a shrub 4-12 ft. high and often forms a large proportion of the sea scrub. It stands sea winds where most other shrubs fail, close to the sea. Its timber is not used and is seldom heavy enough for economic purposes."

DISTRIBUTION: East London.

**A. melanocarpus** Radkl.

A shrub or small tree reaching 20 ft. or more in height (ex *Wood*). *Branches* minutely pubescent, at length becoming glabrous, with greyish bark. *Leaves* petioled, trifoliate (4.5), 22 cm. long; petiole 2.2-8.5 cm. long, channelled above, minutely and densely pubescent; leaflets darker above, paler beneath, shortly petioled, 2.5-12.5 cm. long, 1.2-4.5 cm. broad, elliptic, elliptic-lanceolate, ovate or ovate-lanceolate, acuminate, obtuse, rounded or more usually narrowed at the base, pubescent above and beneath, especially on the veins, sometimes almost glabrous, with a prominent mid-rib beneath and 7-11 lateral veins forming an acute angle with the mid-rib and distinct above, sometimes with distinct tufts of hairs in the angles between the mid-rib and the lateral veins on the under surface. *Inflorescence* an axillary panicle, 3.5-12 cm. long, with the flowers ultimately in cymose groups of 3-5 on short peduncles. *Peduncle* 2-4 cm. long, channelled, densely pubescent, branches of inflorescence similar to the peduncle. *Sepals* unequal, the smaller 1 mm. long, 0.75 mm. broad, more or less rotund, deeply concave, glabrous; the larger 1 mm. long, 1.5 mm. broad, ovate, rounded above, deeply concave, glabrous. *Petals* 1.5 mm. long, spatulate, bearded. *Filaments* 5 mm. long, linear, densely ciliated; anthers 5 mm. long, somewhat obovate in outline. *Ovary* 7.5 mm. long, 1.5 mm. broad, obovate in outline, pubescent, two locular, with a single ovule in each loculus; style 1 mm. long, terete; stigmas, two, reflexed, 0.75 mm. long, ovate, acuminate, acute. In male flowers filaments 1-1.5 mm. long, linear, ciliated; anthers, 0.5 mm. long, subglobose. *S. africana* D.C. *Harv. and Sond. Fl. Cap. I*, 238; *Wood, Natal Plants*, *Pl.* 572; *Sim, Forests and Forest Flora*, 170, *Pl. XXXIII*, *Fig. 4*. *S. melanocarpa*, Arn. *in Hook. Journ. Bot.* III, 153; *Sonder in Harv. and Sond. Fl. Cap. I*, 238. *S. leucocarpa*, Arn. *in Hook. Journ. Bot.* III, 153; *Sonder in Harv. and Sond. Fl. Cap. I*, 238.

*Natal*: Near Phoenix Crossing, 400 ft., February, *Wood in Natal Govt. Herb.*, 1373. Berea, Durban, March, *Wood*, 11804, and in *Natal Govt. Herb.*, 13648. Woods near Durban, 150 ft., January, *Wood*, 22; Port Natal, *Drege*: *Gueinzus*, without precise locality, *Gerrard and McKen.*, 525, and in *Natal Govt. Herb.*, 94; in woods at Inanda, 1800 ft., January, *Wood*, 827, and in *Natal Govt. Herb.*, 5884. Ixopo, 4000 ft., February, *Schlechter*, 6648.

DISTRIBUTION: Rhodesia, Pondoland, Kentani, Swaziland.

#### A. *decipiens* Radkl.

*Young branches* pubescent, becoming glabrous with age. *Leaves* petioled, trifoliate 4-8.5 cm. long; petiole 1-3 cm. long, semiterete, pubescent; leaflets 1-6 cm. long, 0.4-2.1 cm. broad, obovate or oblanceolate, obtuse, sometimes rounded at the apex, cuneate at the base, entire or sometimes remotely crenate, glabrous above and beneath or pubescent on the mid-rib and primary lateral veins. *Inflorescence* in stalked axillary lax racemes, 4-7 cm. long, stalk 1-3 cm. long, pubescent; rachis pubescent. *Larger sepals* 1.25 mm. long, 1.75 mm. broad, more or less broadly oblong, concave; smaller sepals 1.5 mm. long, oblong, deeply concave. *Petals* 1.5 mm. long, spatulate, truncate or 2-3-lobed at the apex, with 1-2 processes on the inner face, ciliate. *Filaments* 0.5 mm. long, ciliate; anthers 0.5 mm. long, oblong in outline. *Ovary* 0.5 mm. long, didymous, pubescent; style divided to the middle; stigmas 0.75 mm. long, linear, slightly recurved. *Fruit* 6 mm. long, 6 mm. in diameter, globose, glabrous. *Schmidelia decipiens*, *Arn. in Harv. and Sond., Fl. Cap. I*, 239.

Not seen from Natal; stated by Wood to have been collected there by Dregé.

*Schmidelia rehmanniana*, Szyszy., collected by Rehmann (No. 9038) near Durban, I have not seen, but from the description given suspect it to be *A. melanocarpus* Radkl.

DISTRIBUTION: Graaff-Reinet, Knysna, Kingwilliamstown, Albany, Uitenhage, Stockenstrom, Somerset East, Swellendam.

### DODONEA LINN. F.

#### D. *viscosa* Linn.

*Branches* glabrous, with reddish bark. *Leaves* sessile, 4-9.5 cm. long, 1-3 cm. broad, oblanceolate, rounded and obtuse or shortly acuminate and subobtuse at the apex, narrowed at the base, glabrous, gland-dotted above and beneath, with the mid-rib prominent beneath, entire. *Inflorescence* a terminal panicle, peduncle glabrous, glandular. *Pedicels* 5-9 mm. long, glandular. *Sepals* unequal, 2.5-3 mm. long, 0.75-1.5 mm. broad, lanceolate or elliptic, obtuse, glandular without, usually three-veined. *Petals* absent. *Filaments* 0.5 mm. long; anthers 1.5 mm. long, 0.75 mm. broad, oblong. *Ovary* 1.5 mm. long, 1.5 mm. in diameter, globose, densely glandular, two-locular with two ovules in each loculus; style 2 mm. long, thick, terete, glabrous, bifid at the apex. *Fruit* 1 cm. long, 1.5 cm. broad, transversely oblong, two-winged, two-celled with two seeds in each cell. *Seeds* black, 1.5 mm. long, 1.5 mm. broad, discoid, glabrous. *Sonder in Harv. and Sond. Fl. Cap. I*, 242.

*Natal*: Shores of Natal Bay, 50 ft., September, *Wood*, 7928, and in *Natal Govt. Herb.*, 2246; near Durban, September, *Wood*, 1928, 484; and in *Colonial Herb.*, 6794.

I find that this species differs from the generic description by having a two-locular ovary.—(E. P. P.)

### HIPPOBROMUS E. & Z.

#### H. *alata* E. & Z.

A small tree, evergreen or nearly so, 10-30 ft. high (ex *Sim*). *Branches* minutely and densely pubescent on the young parts, becoming almost glabrous on the older parts. *Leaves* petioled, paripinnate, 3-6-jugate; petiole 0.7-2 cm. long, terete or somewhat flattened above, densely tomentose; rachis winged, tomentose; leaflets 1-3.5 cm. long, 0.7-2 cm. broad, obovate, obtuse, narrowed at the base, unequal sided, giving the leaflet a falcate appearance, darker above than beneath, glabrous, usually pubescent on the

mid-rib above and beneath, coarsely serrate usually on the convex side, sometimes entire, with the mid-rib prominent beneath. *Inflorescence* an axillary raceme shorter than the leaves, sometimes grouped into a dense terminal panicle. *Pedicels* 2 mm. long, terete, densely tomentose. *Sepals* unequal, 2.5–3 mm. long, 1.75–2.5 mm. broad, elliptic or subrotund, densely tomentose without, ciliated. *Petals* 3 mm. long, 2.5 mm. broad, obovate, glabrous. *Disc* annular. *Filaments* 2.5–5 mm. long, linear, glabrous, tapering gradually from the base upwards; anthers 1.5 mm. long, elliptic, in outline. *Ovary* rudimentary, tomentose. *Fruit* 0.7 mm. long, 1 cm. in diameter, three-celled with a single seed in each cell, pilose. *Seeds* 5 mm. long, 5 mm. in diameter, almost globose, somewhat flattened or channelled on the inner face, glabrous. *Sonder in Harv. and Sond. Fl. Cap. I, 241. Sim, Forest and Forest Flora, 172, Pl. XXXIV.*

*Natal*: Stellabush, Durban, September, *Van der Bijl in Natal Herb., 16243, 16244*; without precise locality or collector in *Natal Govt. Herb., 93*; Verulam, *Wood, 606.*

**DISTRIBUTION**: Port Elizabeth, Kentani, Somerset East, Uitenhage, Albany, Stocken-stroom.

### PTAEROXYLON, E. & Z.

#### **P. utile** E. & Z.

*Branches* glabrous, youngest with greyish bark, turning dark brown in older branches. *Leaves* petioled, pinnately compound, 6–7-jugate, 3–12 cm. long; petiole 1–2.5 cm. long, minutely pubescent, furrowed above; leaflets 1–3 cm. long, 0.5–1.5 cm. broad, oblong, obtuse or retuse at the apex, sometimes shortly mucronate, unequal at the base, entire, with the mid-rib prominent above and beneath and the lateral veins distinct, glabrous. *Inflorescence* racemose, massed at the ends of the branches, about 3 cm. long. *Peduncle* pubescent. *Flowers* often in three-flowered cymes on the raceme. *Pedicels* 4 mm. long, pubescent, articulated at the base. *Bracts* 2 mm. long, lanceolate-linear. *Calyx* 1.5 mm. long, ovate, subobtuse, pubescent. *Petals* 5 mm. long, 2 mm. broad, oblong, obtuse, glabrous. *Filaments* 3 mm. long, linear, gradually narrowing from the base upwards; anthers 1.5 mm. long, elliptic in outline, flattened, cordate at the base. In female flowers: *Ovary* 1.5 mm. long, 1.5 mm. broad, almost circular in outline, somewhat flattened, pubescent. *Style* 1 mm. long, terete, pubescent; stigma bilobed, discoid. *Fruit* 1.3 cm. long, oblong in outline, somewhat compressed, dehiscent into two valves; valves deeply keeled, glabrous.

No specimen from Natal seen.

**DISTRIBUTION**: Uitenhage, Somerset East, Komgha.

### SAPINDUS, LINN.

#### **S. oblongifolius** Sond.

Shrub or small tree 6–10 ft. high (ex *Wood*). *Branches* minutely pubescent. *Leaves* petioled, paripinnate, 4–11-jugate, 18–26 cm. long; petiole 5–11 cm. long, terete, glabrous or sparsely pilose; leaflets sessile, 3.5–12.5 cm. long, 1.5–4 cm. broad, lanceolate, rarely elliptic, obtuse, glabrous, with the mid-rib prominent beneath, entire. *Inflorescence* a panicle up to 43 cm. long. *Peduncle* pubescent, the main axis of the panicle and branches densely tomentose. *Pedicels* 3 mm. long, terete, densely tomentose. *Calyx* 6 mm. long, 4 mm. broad, elliptic in outline, deeply concave, densely tomentose without, long-ciliated. *Petals* 6 mm. long, 3–5 mm. broad, spatulate, densely ciliated, with a flat claw appendage 1 mm. long and 2.25 mm. broad and densely ciliate arising from the inner face. *Filaments* 2.5 mm. long, linear, long-ciliated; anthers 1.5 mm. long, oblong. *Disc* deeply saucer-shaped with a rim 1.5 mm. high, thin, more or less triangular in outline with rounded angles. *Ovary* 3 mm. long, 4 mm. in diameter, sub-apocarpous, three-locular with a single ovule in each loculus, densely pilose. In male flowers the filaments are slightly longer and the ovary rudimentary, otherwise similar to the perfect flowers. *Wood, Natal Plants Pl. 89. Sim, Forests and Forest Flora, 173, Pl. XXXV. Sond. in Harv. and Sond. Fl. Cap. I, 240.*

*Natal*: Near Durban, 100 ft., Wood, 1917, and in *Natal Govt. Herb.*, 2213; Berea, Durban, 100–200 ft., May, Wood, 11869, and in *Natal Govt. Herb.*, 13053; Port Natal, *Saunderson* (?).

Wood states: "In the 'Flora Capensis,' Vol. I, 240, this plant is described as dioecious. We find, however, that it is certainly polygamous, and plants which in one season bear a larger number of perfect flowers, in another season bear male ones only, or with but very few perfect ones." In the Stellabush at Durban I saw trees well over 20 ft. high.—(E. P. P.)

DISTRIBUTION: Komgha.

### BERSAMA, FRESEN.

Mid-rib on lower surface of leaf covered with long straight hairs..... *Stayneri*.

Mid-rib quite glabrous.

Leaves usually 2–3-jugate; leaflets obovate, usually rounded at the apex, obtuse..... *lucens*.

Leaves usually 4-jugate; leaflets oblong-lanceolate, acuminate, acute.. *abyssinica*.

#### B. *Stayneri* Phillips.

Bark thick and rough. *Branches* glabrous, rough with longitudinal furrows. *Leaves* pinnate, petioled, 7–16 cm. long, 4–5-jugate; petiole 1–2 cm. long, very densely pilose; rachis densely pilose; leaflets 1.7–5.2 cm. long, 0.8–1.5 cm. broad, oblong-lanceolate or elliptic, acute and mucronate at the apex, rarely rounded, slightly cuneate at the base, the mid-rib deeply sunk on the under surface, which is frequently somewhat rugose, prominent beneath and with the lateral veins distinct beneath, glabrous above pilose or pubescent beneath, especially on the mid-rib. *Inflorescence* a shortly peduncled many-flowered raceme, 3.5–6.5 cm. long; peduncle 1–1.5 cm. long, very densely pilose. *Bracts* 3 mm. long, linear, tomentose. *Pedicels* 5 mm. long, terete, tomentose. *Calyx* 6 mm. long, densely tomentose, divided almost to the base. *Petals* 1.3 cm. long, 3 mm. broad, spatulate-linear, tomentose, reflexed in open flowers. *Filaments* 5 mm. long, semiterete, monadelphous and villous at the base. *Ovary* densely villous; style 3 mm. long, terete; stigma subglobose. *Fruit* 2.7–3 cm. long, dehiscent by four valves; valves woody, covered with woody protuberances. *Seeds* reddish in colour, 1.1 cm. long, 6 mm. in diameter, ellipsoid with a waxy yellow arillus at the base.

*Natal*: Without locality, *Stayner* in *Herb. Bolus*; Stinkwood Forest, Ingeli, Natal, May, *Chilvers* in *Herb. Forest Dept.*, 1518; Mkanzeni, Riversides, Natal, *Henkel* in *Herb. Forest Dept.*, 2421.

#### B. *lucens* Szysz.

A shrub 8–10 ft. high (ex Wood). *Branches* glabrous, with wrinkled greyish bark. *Leaves* petioled, compound, imparipinnate, 2–4-jugate, 10–20 cm. long; petiole 1.5–5.5 cm. long, glabrous, rarely pubescent; leaflets 1.8–9 cm. long, 1.3–4.5 cm. broad, obovate or obovate-elliptic, rarely elliptic, very rarely subacute, slightly narrowed at the base, glabrous, with the mid-rib distinct above, prominent beneath, and with thickened wavy margins. *Inflorescence* a lax axillary or terminal raceme, 6–14.5 cm. long, many-flowered; peduncle pubescent. *Pedicels* 0.4–1 cm. long, terete, densely tomentose with fine adpressed hairs. *Bracts* 0.5 mm. long, ovate, pubescent. *Calyx* gamosepalous; lobes 3–4 mm. long, 2 mm. broad, ovate or ovate-elliptic, obtuse, finely but densely pubescent without and with fine adpressed hairs within, ciliated; the two posterior lobes connate and bifid at the apex. *Petals* dull yellow, 8.5 mm. long, 2.5 mm. broad, above, oblong, obtuse, narrowed into an evident claw, pubescent. *Disc* unilateral. *Filaments* all connate at the base, 1 cm. long, terete, glabrous except at the; base the anterior filaments ciliated at the base and forming a tomentose shield 3 mm. long and 2.5 mm. broad; the posterior filaments ciliated and pubescent at the base; anthers 2.5 mm. long, 1.5 mm. broad, oblong. *Ovary* 1 mm. long, 1.5 mm. broad, subglobose, densely villous, four-locular with a single ovule in each loculus; style 7 mm. long, cylindric, pubescent on the lower half;

stigma globose, faintly lobed. *Fruit* 1.7 mm. long, 1.7 cm. in diameter, finely but densely pubescent, four-celled, each cell with a single seed, splitting into four valves when ripe. *Seeds* bright scarlet, 7 mm. long, 7 mm. in diameter, subglobose, wrinkled, flat on one side, convex on the other, with a fleshy yellow-green arillus. *Wood, Natal, Pl.* 88. *Sim., Forests and Forest Flora*, 175. *Journ. Bot. XLV*, p. 13. *Natalia lucens, Hochst., Harv. and Sond. Fl. Cap. I*, 369.

*Natal*: Umbilo, 20-100 ft., May, *Wood*, 12612, and in *Natal Herb.*, 14571; near Verulam, 100-200 ft., January, *Wood*, 10207, and in *Natal Govt. Herb.*, 11411; Durban Flats, near Umgeni, September, *Wood in Natal Herb.*, 2868; near Stamford Hill, *Wood*; Groenberg, February, *Wood*, 808; near Durban, 200-300 ft., March, *Wood*, 6307; without locality, *Saunders*; Palmiet, near Durban, 200 ft., February, *Wood*, 7392; Port Natal, *Gueinzius*,

DISTRIBUTION: Swaziland, Transvaal, Kentani, Pondoland, Komgha.

### B. *abyssinica* Fresen.

A tree. *Leaves* petioled, 18-22 cm. long, pinnate; petiole 4-5 cm. long, terete, glabrous; rachis sometimes winged between the uppermost pair of leaflets; leaflets usually in four pairs, 2.5-4 cm. apart, 4-9 cm. long, 1.7-3.5 cm. broad, oblong-lanceolate or ovate-lanceolate, acuminate, acute, entire or the margins sometimes serrated in the upper half, glabrous. *Inflorescence* racemose, 10-20 cm. long on a woody peduncle 5-7 cm. long. *Calyx* campanulate, silky. *Petals* five, ligulate-spathulate, twice as long as the calyx, densely and finely silky, finally, reflexed. *Stamens* five; in the male flower nearly as long as the petals; filaments monadelphous, silky. *Capsule* about 1 cm. long, 1 cm. in diameter, subglobose, 3-4-valved, densely pubescent, without woody protuberances. *Seeds* 6 mm. long, black.

This description was drawn up partly from a fruiting specimen collected by *Schimper* in Abyssinia and partly from the description in the "Flora of Tropical Africa."