

Notes on African plants

VARIOUS AUTHORS

VITACEAE

A NEW SPECIES OF *RHOICISSUS* FROM THE TRANSVAAL

Rhoicissus laetans Retief, sp. nov., *R. microphyllae* (Turcz.) Gilg & Brandt similis sed foliis ellipticis vel obovatis, glaucoviridibus, glabris, in sicco valde discoloribus, sine domatiis differt; *R. microphyllae* folia ovata vel elliptica sunt, pilis rufis vestita, cum domatiis fasciculis trichomatorum in axillis venarum principalium lateralium.

Type.—Transvaal, 2430 (Pilgrim's Rest): along Drie Rondawels-Uitkyk road, (–DB), Herman 737 (PRE, holotype). Figure 1.

A shrub, up to 1.5 m high, sometimes scrambling. Tendrils absent. Leaves simple, petiolate; lamina elliptic to obovate, 18–50 × 10–25 mm, glabrous, net-veining prominent on undersurface, margin entire, base obtuse, apex obtuse to slightly acute, very shortly mucronate; stipules absent; petiole up to 5 mm long. Inflorescence a leaf-opposed cyme, tendril-like. Calyx entire. Petals 4, ovate,

2 mm long, yellowish green. Stamens with filaments 1 mm long, dorsifixed, opposite petals, bending over gynoecium. Disc entire, with ovary immersed in it. Style simple, entire, 2 mm long. Stigma not broader than style. Berries 12 mm in diameter. Seed 1–3(–4); testa smooth, dark brown, usually with a prominent, longitudinal furrow.

TRANSVAAL.—2430 (Pilgrim's Rest): Blydepoort Nature Reserve, Lowveld look-out, (–BD), Van Wyk 10233 (PRU); Farm Steenveld 229KT, kranzes overlooking Ohrigstad River, (–DA), Fourie 1316 (PRE); along Drie Rondawels-Uitkyk road, (–DB), Herman 737 (PRE); 18.3 radial miles from Pilgrim's Rest, banks of Blyde River, (–DB), Mogg & Davidson 33547 (J, PRE); Blydepoort Nature Reserve, F.H. Odendaal Rest Camp, (–DB), Van Wyk 5200 (PRE, PRU).

Rhoicissus laetans is endemic to the northeastern Transvaal Escarpment, where it occurs in a small area (Figure 2). The species is found in mountain grassland with stunted shrub vegetation (North-eastern Mountain Sourveld) or on steep, densely wooded kloof slopes with mixed bushveld vegetation. Occasionally it occurs in riverine forest. The species grows on soils derived from quartzite and sandstone. It flowers from at least November (probably earlier, judged by the occurrence of fruits on specimens) till February.

Classification of the new species in the genus *Rhoicissus* is supported by the shape of its flower buds, structure of the floral disc and inflorescence morphology. In *Rhoicissus* the buds are globose in outline (Figure 3). Flower buds of *Cissus* are typically conical to ovoid with the petals cucullate at the apex, whereas those of *Cyphostemma* are cylindric or flask-shaped, constricted in the middle and inflated at the apex (Figure 3). Flower buds of *Ampelocissus* and *Cayratia* are also globose in

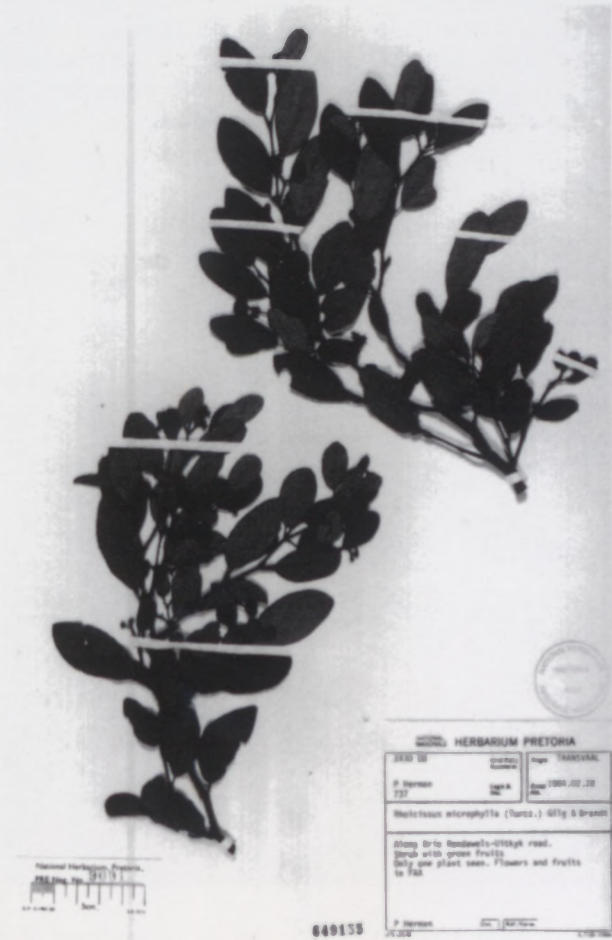


FIGURE 1.—Holotype of *Rhoicissus laetans*, Herman 737 (PRE).

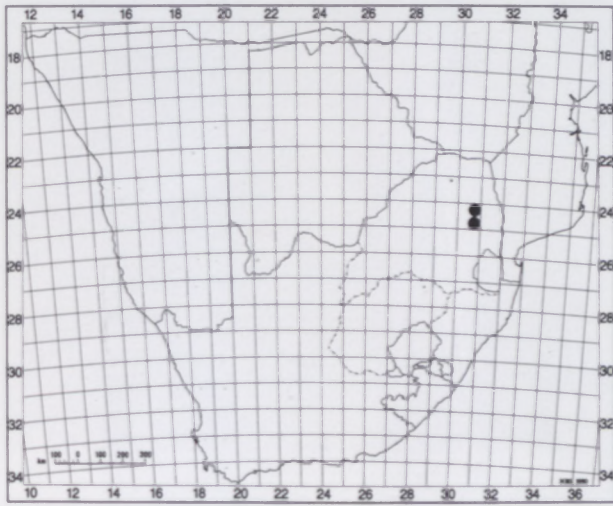


FIGURE 2.—Distribution of *Rhoicissus laetans*.

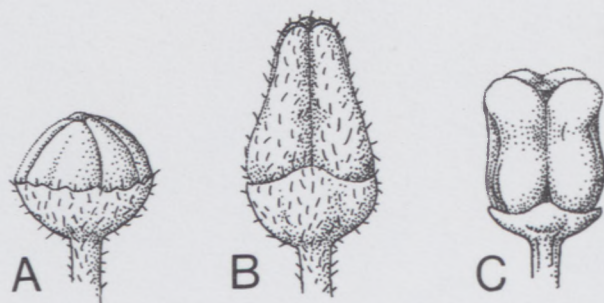


FIGURE 3.—Characteristic flower bud shape in three genera of the Vitaceae: A, *Rhoicissus*; B, *Cissus*; C, *Cyphostemma*.

outline, but *Ampelocissus* differs from *Rhoicissus* in having an inflorescence with tendrils and a floral disc with vertical furrows. *Cayratia* has a thin disc and axillary cymes, whereas in *Rhoicissus* the disc is annular, entire and thick and the inflorescence is a leaf-opposed cyme.

The species of *Rhoicissus* usually have 5 or 6 petals per flower. Although only 4 petals are present in *R. laetans* and *R. microphylla* (as is the case in *Cissus*, *Cyphostemma* and *Cayratia*), the prominent globose flower buds place the species in *Rhoicissus*.

Rhoicissus laetans is distinguished from all the other members of the genus by its shrubby habit and simple, glabrous, glaucous green leaves. In southern Africa *R. tomentosa* (Lam.) Wild & Drummond and *R. microphylla* (Turcz.) Gilg & Brandt also have simple leaves. The leaves of *R. tomentosa* are broadly transversely elliptic to reniform and the species is a high-climbing liane. *R. microphylla*, a small shrub, has ovate leaves with the undersurface of the lamina covered with reddish brown hairs. The other southern African species, namely *R. digitata* (L.f.) Gilg & Brandt, *R. revoilii* Planch., *R. rhomboidea* (E. Mey. ex Harv.) Planch., *R. sessilifolia* Retief and *R. tridentata* (L.f.) Wild & Drummond all have 3-foliate leaves.

For nearly twenty years it was thought that specimens of *R. laetans* belonged to *R. microphylla*, a species occurring only in the eastern Cape. The two taxa differ not only in their widely disjunct distribution but *R. microphylla* has ovate to elliptic leaves, with reddish hairs and hair-tuft domatia on the undersurface (Figure 4B). *R. laetans*, on the other hand, has elliptic to obovate leaves which are glaucous green and glabrous when fresh (Figure 4A), and prominently discolorous when dried.

The geographical range of *R. laetans* falls within the Wolkberg Centre of endemism, and more specifically the Blyde Subcentre (Matthews *et al.* 1993; listed as *Rhoicissus* sp. nov.). Other woody species endemic/near-endemic to the Blyde Subcentre include *Euclea dewinteri* Retief, *Protea laetans* L.E. Davidson and *Combretum petrophilum* Retief. *Rhoicissus laetans* and its sister species, *R. microphylla*, which occurs in the eastern Cape, mirror a disjunct distribution pattern shown by a number of other Blyde Subcentre endemics, e.g., *Streptocarpus meyeri* B.L. Burtt, *Cyrtanthus huttonii* Baker and *Hae-manthus paucifolius* Snijman & Van Wyk (Hilliard & Burtt 1971; Dyer 1972; Reid & Dyer 1984; Snijman & Van Wyk 1993). The repeated pattern shown by these vicarious taxa should have value for tracing the history and development of the southern African flora.

The specific epithet *laetans* refers to the area from which the species has mainly been collected: Blydepoort Nature Reserve, with 'bly' meaning 'joyful'.

ACKNOWLEDGEMENTS

The author wishes to thank Drs O.A. Leistner and H.F. Glen of the National Botanical Institute, Pretoria, and Prof. A.E. van Wyk of the University of Pretoria, for their assistance in the preparation of this manuscript.

REFERENCES

- DYER, R.A. 1972. *Cyrtanthus huttonii*. *The Flowering Plants of Africa* 42: t. 1660.

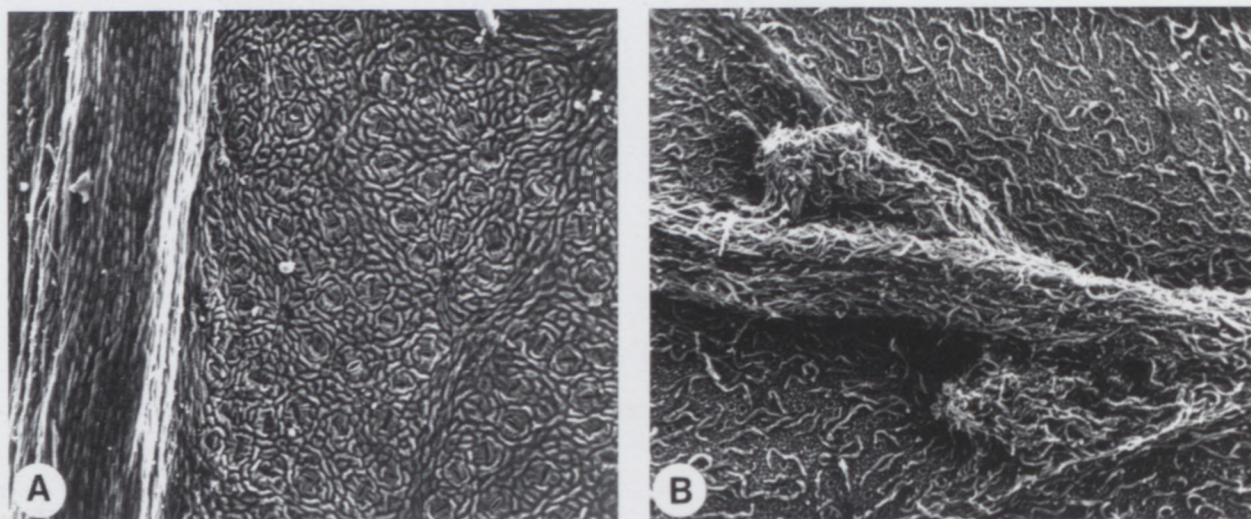


FIGURE 4.—SEM micrograph of leaf undersurface: A, *Rhoicissus laetans*, $\times 35$; B, *R. microphylla*, note scattered trichomes and hair-tuft domatia in axils of principal lateral veins, $\times 16$.

- HILLIARD, O.M. & BURTT, B.L. 1971. *Streptocarpus: an African plant study*. University of Natal Press, Pietermaritzburg.
- MATTHEWS, W.S., VAN WYK, A.E. & BREDENKAMP, G.J. [1992] 1993. Endemic flora of the northeastern Transvaal Escarpment, South Africa. *Biological Conservation* 63: 83–94.
- REID, C. & DYER, R.A. 1984. *A review of the southern African species of Cyrtanthus*. American Plant Life Society, La Jolla, California.

- SNIJMAN, D.A. & VAN WYK, A.E. 1993. A new species of *Haemanthus* (Amaryllidaceae) from the eastern Transvaal Escarpment, South Africa. *South African Journal of Botany* 59: 247–250.

E. RETIEF

MS. received: 1992-10-19.