

Rhoicissus kougabergensis Retief & Van Jaarsv., sp. nov., *R. microphyllae* (Turcz.) Gilg & M.Brandt et *R. laetantis* Retief affinis, sed distributione et lamina folii ambitu anguste obovata, non ovata vel elliptica (ut in *R. microphylla*) nec elliptico-obovata (ut in *R. laetanti*) differt.

TYPE.—Eastern Cape, 3324 (Steytlerville): Kouga Dam, NW of chalets, (–DA), *Van Jaarsveld* 13796 (PRE, holo.); E, G, K, MO, NBG, iso.).

Spreading shrub with tendency to scramble, covered with equally two-armed, unicellular hairs. *Roots* thick and fleshy. *Tendrils* absent. *Branches* with leaves aligned on one side; old bark greyish white, rough. *Leaves* simple, petiolate; blade narrowly obovate, (22–)30–55(–65) × (6–)10–22(–27) mm, entire, apex obtuse or slightly emarginate, thick in texture, discolorous with lower surface reddish brown, upper surface glaucous green or both surfaces more or less of the same colour, lower surface more or less of the same colour, lower surface more densely hairy; base of blade cuneate or asymmetric; young leaves covered throughout with reddish brown hairs; older leaves pale white or transparent on upper surface; petiole 2–4(–7) mm long; stipules present, soon deciduous. *Inflorescences* leaf-opposed, ± condensed, reddish brown, bracteate, thyrsoid cymes. *Flowers* regular, bisexual, pedicellate, globose in bud; pedicels 0.5–1.0 mm long. *Calyx* 5-lobed, cup-shaped, ± 1 mm high; lobes broadly ovate. *Corolla*: petals 5, ovate, 1.5–2.0 mm long, greenish yellow. *Stamens* 5, opposite petals, bending over gynoecium; filaments 1 mm long; anthers dorsifixed. *Disc* entire with ovary immersed in it. *Style* simple, entire; stigma inconspicuous. *Fruit* a 1-seeded berry, globose, 8–10 mm in diameter, stalk ± 1.5 mm long (Figures 5 & 6).

The globose flower bud and the thick, entire disc of *Rhoicissus kougabergensis* indicate that it belongs to the genus *Rhoicissus* (Retief 1993). It is the fourth southern African member of the genus with simple leaves. All other known species have 3- or 5-foliolate leaves. *R. kougabergensis* differs from *R. microphylla* in the outline of its leaves which are narrowly obovate (Figure 7A). Table 3

summarizes differences between the simple-leaved species known from southern Africa. The other three species with simple leaves can be distinguished as follows: 1, *R. microphylla* has ovate to elliptic leaves (Figure 7B) and equally two-armed, reddish brown, unicellular hairs (Figure 8), somewhat more slender than those of *R. kou-*



FIGURE 5.—Holotype of *Rhoicissus kougabergensis*, Van Jaarsveld 13796 (PRE).

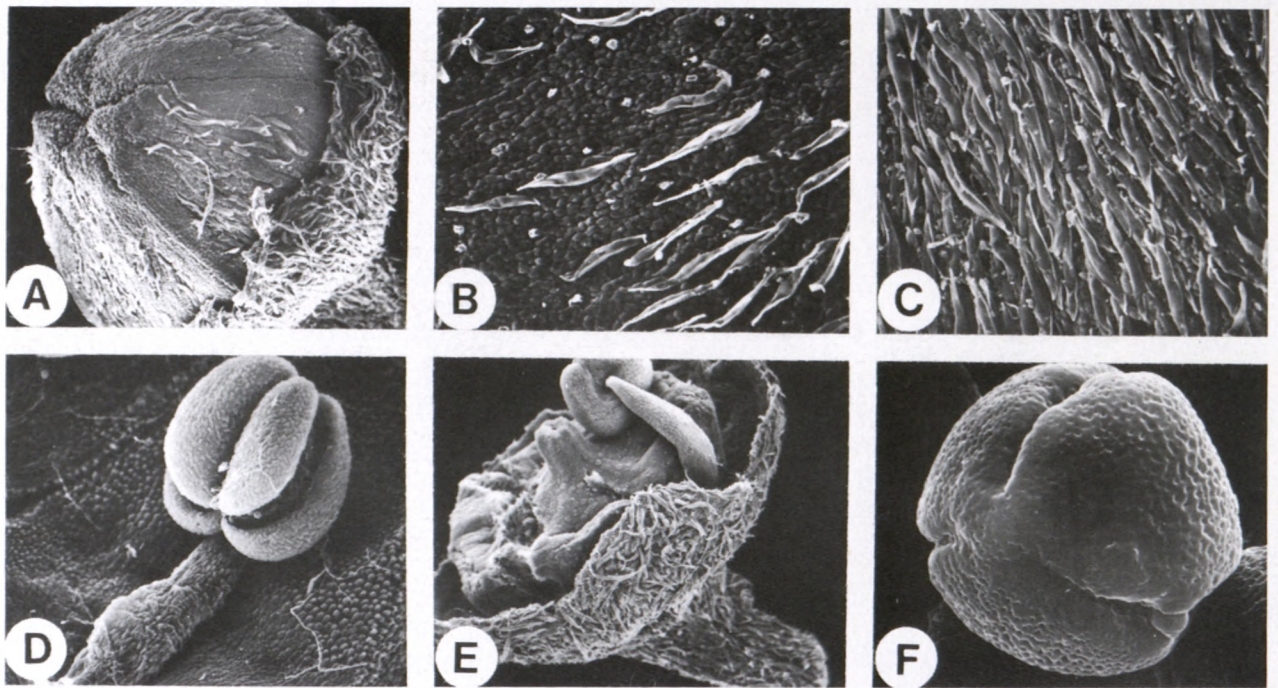


FIGURE 6.—*Rhoicissus kougabergensis* Retief & Van Jaarsv.: A, flower bud; B, upper surface of leaf; C, undersurface of leaf; D, stamen; E, stamen bending over gynoecium; F, pollen grain. SEM micrographs from *Van Jaarsveld 13796*. A, $\times 169$; B, $\times 53$; C, $\times 53$; D, $\times 40$; E, $\times 18$; F, $\times 1540$.

gabergensis, giving a rusty brown appearance to the species. *R. microphylla* occurs in the Queenstown-Cathcart area, whereas *R. kougabergensis* is found only in the vicinity of the Kouga Dam (Figure 9); 2, *R. laetans*, which has elliptic, glabrous leaves, is endemic to the Blydepoort Nature Reserve area in Mpumalanga (Figure 9); 3, *R. tomentosa* (Lam.) Wild & R.B.Drumm. has shallowly lobed, broadly transversely elliptic or reniform leaves and is a high-climbing liane in contrast to *R. kougabergensis*, a spreading shrub.

The pollen grains of *R. kougabergensis* are typically isopolar and radially symmetrical. In polar view the grains are triangular to circular; the mesocolpia are convex and the equatorial view is elliptic. The colpi are long, narrow and granular with pointed ends; the tectum is reticulate with densely spaced lumina (Figure 6F).

Rhoicissus kougabergensis is endemic to the Kouga Dam area (only locality known) within the Kouga-Baviaanskloof Wilderness Area in the southern Eastern Cape where it occurs on steep slopes (Figure 9). The vegetation in the region consists of subtropical thicket, domi-

nated by the spekboom, *Portulacaria afra* Jacq., with fynbos on the upper slopes. The climate is hot in summer and mild in winter. The rainfall varies between 300 and 400 mm annually and occurs in summer and winter, but the winters tend to be drier. The terrain is rugged and the acid, quartzitic, sandstone soils are poor in minerals. According to Archer & Van Wyk (1993), *R. digitata* (L.f.) Gilg & M.Brandt, *R. revoilii* Planch. and *R. tridentata* (L.f.) Wild & R.B.Drumm. subsp. *tridentata* occur in the Kouga-Baviaanskloof Wilderness Area. *R. kougabergensis* with simple leaves is easily distinguished from these species which all have 3- or 5-foliolate leaves. *R. kougabergensis* starts flowering \pm in October.

The Kouga-Baviaanskloof Wilderness Area does not appear to contain an exceptionally rich flora, nor is it very rich in endemic species. The area is still undercollected and future floristic surveys will undoubtedly add many new records and even new taxa (Archer & Van Wyk 1993). Some endemic species occurring in the vicinity of *R. kougabergensis* include two tree species, *Sterculia alexandri* Harv. and *Atalaya capensis* R.A.Dyer. Smaller endemic species include *Aloe pictifolia* D.S.Hardy, *Gasteria*

TABLE 3.—Southern African species of *Rhoicissus* with simple leaves

Species	Leaf shape	Hairs	Habit	Distribution
<i>R. kougabergensis</i>	narrowly obovate	reddish brown or transparent, equally 2-armed, unicellular	spreading shrub	endemic to Kouga Dam area, Eastern Cape
<i>R. microphylla</i>	ovate to elliptic	as in <i>R. kougabergensis</i> , but more slender	small shrub	Queenstown-Cathcart area, Eastern Cape
<i>R. laetans</i>	elliptic	absent	shrub	endemic to Blydepoort area, Mpumalanga
<i>R. tomentosa</i>	shallowly lobed, broadly transversely elliptic or reniform	long, thin, unicellular	high-climbing liane	forests and woodland of the Northern Province, Mpumalanga and Swaziland; coastal dune forests of Kwazulu-Natal and Eastern Cape.

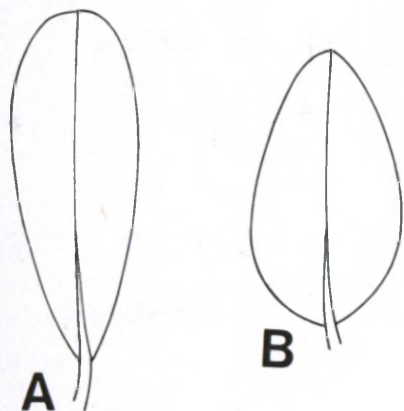


FIGURE 7.—Characteristic leaf blade outlines of: A, *Rhoicissus kougabergensis*; B, *R. microphylla*, $\times 1$.

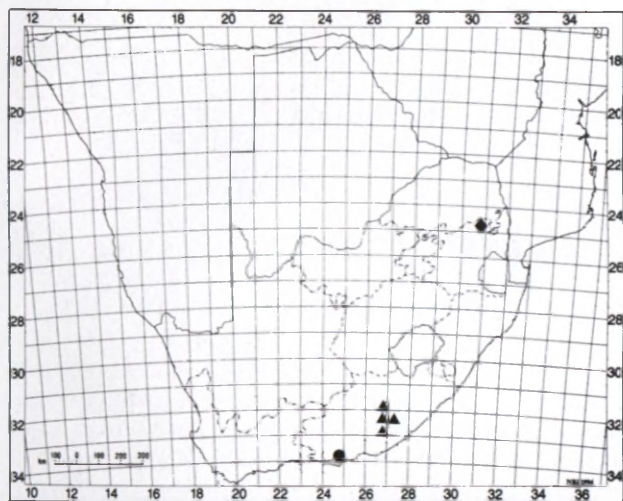


FIGURE 9.—Known distribution of *Rhoicissus kougabergensis* Retief & Van Jaarsv., ●; *R. microphylla* (Turcz.) Gilg & Brandt, ▲; *R. laetans* Retief, ◆.

glomerata Van Jaarsv. and *G. ellaphieae* Van Jaarsv., *Cyrtanthus flammosus* Snijman & Van Jaarsv. and *C. labiatus* R.A.Dyer.

EASTERN CAPE.—3324 (Steytlerville): Kouga Dam, sheer slope above wall, (-DA), *Van Jaarsveld* 9902 (NBG, PRE); Kouga Dam, NW of chalets, (DA), *Van Jaarsveld* 13796 (E, G, K, MO, NBG).

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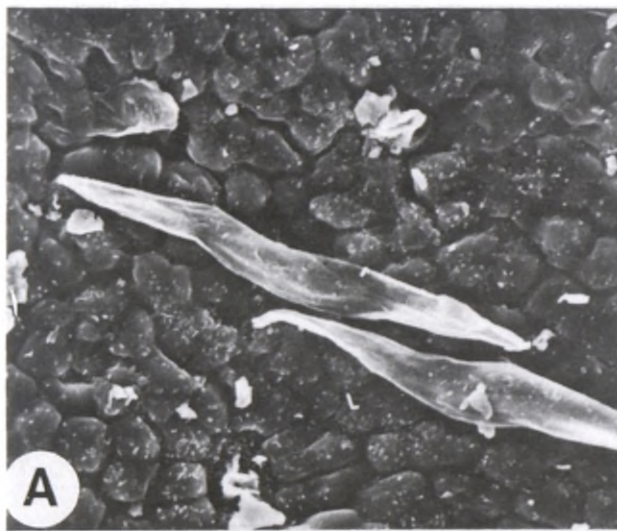


FIGURE 8.—SEM micrographs of upper surface of leaf with two-armed hairs: A, *Rhoicissus kougabergensis*, $\times 234$; B, *R. microphylla*, $\times 198$.

REFERENCES

- ARCHER, R. & VAN WYK, B. 1993. Checklist of the vascular plants of the Kouga-Baviaanskloof Wilderness Area. *Plantlife* 9: 25–31.
 RETIEF, E. 1993. A new species of *Rhoicissus* from the Transvaal. *Bothalia* 23: 231–237.

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