

FIGURE 14.—*Oxygonum alatum* var. *longisquamatum* Germishuizen (Giess 11171, WIND). Elongated scales present on stem surface,  $\times$  230.

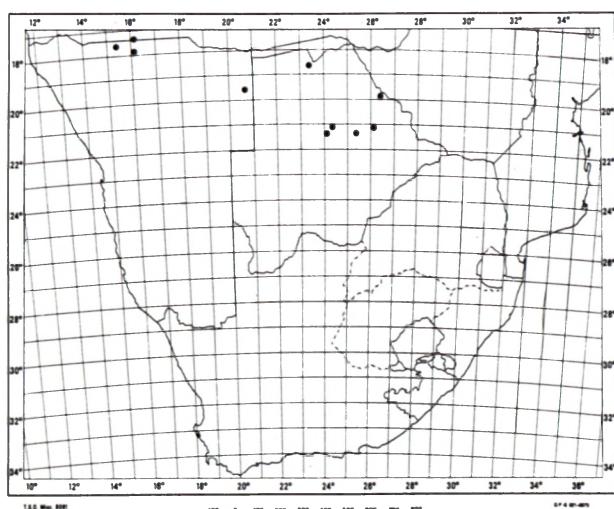


FIGURE 15.—Distribution of *Oxygonum alatum* var. *longisquamatum* in southern Africa.

#### ACKNOWLEDGEMENTS

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G. GERMISHUIZEN

## TRAPELIACEAE

### A NEW SPECIES OF *TRAPELIA* (LICHENES) FROM SOUTHERN AFRICA

#### *Trapelia chiodectonoides* Brusse, sp. nov.

Thallus crustosus, saxicola, cretaceus vel pallide cinereus, pannum grandem continuum circa 200 mm diametro efficiens, rimosus vel rimoso-areolatus, areolis 0,2–4,0 mm diametro, vulgo circa 1 mm diametro, laevis, 0,2–1,0 mm crassus, rimis usque ad 0,1 mm latis. Superficies laevis, subnitida, isidiis sordidisque destituta. Cortex superior 10–17 µm crassus, paraplectenchymatus, cellulis 4–8 µm diametro. Stratum gonidiale 35–50 µm crassum; algae ad Chlorococcales pertinentes, 5–15 µm diametro. Medulla alba, C+ rubra. Apothecia rubiginosa, usque ad 0,5 mm diametro, lecanorina sed marginibus mox fatiscentibus, dein lecideina, in maculis circularibus, 2–5 mm diametro, super areolis grandibus et pustulatis aggregata. Excipulum thallinum evanescens. Excipulum pallide porphyreum, in lateribus 20 µm crassum, infra degenerum. Hypothecium hyalinum,

40–100 µm crassum, cellularum isodiametrarum compactarum, 3–7 µm diametro compositum. Hymenium hyalinum, 90–110 µm altum, J+ pallide caeruleum. Paraphyses septatae, ramosae, liberae, 1,1–1,3 µm crassae. Asci cylindrici vel fusiformo-cylindrici, 75–100 × 15–22 µm, tholis umbonatis, J+ perpallide caeruleis, fere hyalinis (Figura 17). Ascosporeae octonae, hyalinae, simplices, ellipsoideae, 16–21 × 8–10,5 µm. Pycnidia non visa. Thallus aciculum gyrophoricum continens.

TYPE.—Natal, 2829 (Harrismith): Cathedral Peak Reserve, Doreen Falls area, near lower falls, on steep E slope, on SE face of Clarens sandstone boulder in grassland, alt. 1 680 m (-CC), F. Brusse 4540, 1986.01.22 (PRE, holo.; BM, LD, iso.). Figure 16.

Thallus crustose, saxicolous, ashy or chalky whitish, growing in large continuous patches up to

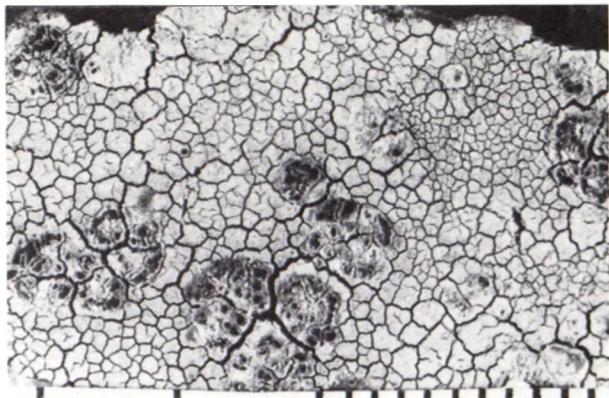


FIGURE 16.—*Trapelia chiodectonoides*, habit. F. Brusse 4540, isotype. Scale in mm.

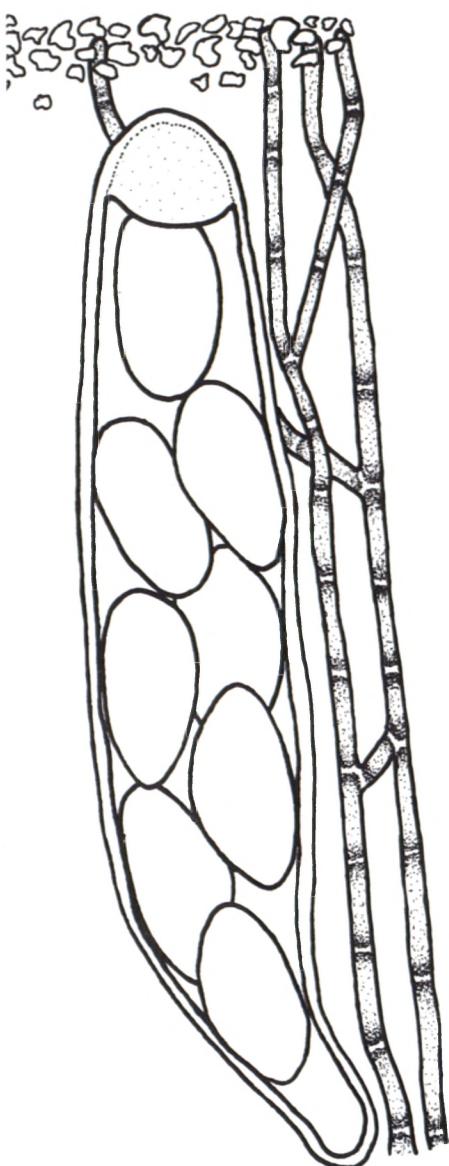


FIGURE 17.—*Trapelia chiodectonoides*, ascus and paraphyses. F. Brusse 4540, holotype. Bar = 10 µm.

200 mm across, rimose to rimose-areolate, areoles 0,2–4,0 mm across, commonly 1 mm across, smooth, 0,2–1,0 mm thick, cracks up to 0,1 mm wide. Surface smooth, subnitid, not isidiate or sorediate. Upper cortex 10–17 µm thick, paraplectenchymatous, cells

4–8 µm diam. Algal layer 35–50 µm thick; algae Chlorococcacean, 5–15 µm diam. Medulla white, C+ red. Apothecia brownish red, up to 0,5 mm diam., lecanorine but margins soon disintegrating, becoming lecideine, aggregated into circular spots, 2–5 mm across, on large pustular areoles (Figure 16). Thalline exciple evanescent. Exciple pale reddish brown, 20 µm thick on flanks, degenerate below. Hypothecium hyaline, 40–100 µm thick, composed of compacted isodiametric cells, 3–7 µm diam. Hymenium hyaline, 90–110 µm high, J+ pale blue. Paraphyses septate, branched, free, 1,1–1,3 µm thick. Ascii eight-spored, cylindrical to fusiform-cylindrical, 75–100 × 15–22 µm, tholus bossed, J+ very pale blue almost hyaline (Figure 17). Ascospores hyaline, simple, ellipsoid, 16–21 × 8–10,5 µm. Pycnidia not seen. Chemistry: gyrophoric acid present.

**Etymology:** the specific epithet is derived from the Greek generic name *Chiodecton* and the Greek suffix, *-oides*, which indicates resemblance, because the aggregated apothecia superficially resemble those of some *Chiodecton* species. The apothecia of *Chiodecton* are, however, very different, being embedded in stromatic tissue, which is often sclerotic.

The apothecial habit of this new species is unique in *Trapelia*, being an unknown trait in this genus until now (Coppins & James 1984; Hertel 1969, 1970, 1977). The thallus is also strongly developed and coherent, a condition not common in this genus (Coppins & James 1984; Hertel 1969, 1977).

The internal anatomy and dimensions of *T. chiodectonoides* apothecia resemble those of the widespread *T. coarctata* (Sm. & Sow.) Choisy rather closely, but seem slightly smaller in all respects. *T. coarctata* apothecia are not aggregated into sub-pustular spots, and the hymenial surface is normally brown and larger. The upper layer of the thallus of *T. coarctata* is undifferentiated (Hertel 1977), whereas *T. chiodectonoides* has a distinctly paraplectenchymatous upper cortex.

The chemistry of this new species is typical for a member of the Trapeliaceae, most members tested producing gyrophoric acid as the only constituent (Hertel & Leuckert 1969).

*Trapelia chiodectonoides* is presently known only from the type locality, the Doreen Falls area of the Cathedral Peak Reserve in the Natal Drakensberg, on Clarens (Cave) sandstone.

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