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Notes on African plants

VARIOUS AUTHORS

ACAROSPORACEAE

LITHOGLYPHA, A NEW LICHEN GENUS FROM CLARENS SANDSTONE

Lithoglypha *Brusse*, gen. nov.

Thallus endolithicus (vel crustosus). *Algae* ad Chlorococcales pertinentes. *Apothecia* primum cleistotheciformia dein pseudolecideina. *Excipulum* atro-porphyreum, inferne prosoplectenchymatum, superne paraplectenchymatum. *Epithecium* atro-porphyreum, paraplectenchymatum, evanescens. *Hypothecium* inspersum. *Hymenium* hyalinum, 50–100 μm altum, J+ caeruleum vel vinoso-rubescens. *Paraphyses* septatae, cylindricae, conglutinatae, simplices vel ramosae et anastomosantes. *Asci* clavati, tholis J– vel pallide caeruleis, gelatinis externis J+ caeruleis vel vinoso-rubescentibus (Figure 1). *Ascosporae* numerosae (± 100 vel plures), hyalinae, ellipsoideae, simplices, parvae, 2–8 × 1–3 μm. *Pycnidia* globosa vel pyriformia, circa 150 μm diametro. *Pycnidiosporophora* hyalina, cylindrica, septata, simplicia vel ramosa. *Pycnidiosporae* acrogenae, hyalinae, aciculares, 3,5–8 × 0,8 μm.

TYPE.—*Lithoglypha aggregata* Brusse

Thallus endolithic (or crustose). *Algae* belonging to the Chlorococcales. *Apothecia* first cleistotheciform then pseudolecideine. *Excipulum* dark reddish brown, prosoplectenchymatous below, becoming paraplectenchymatous above. *Epithecium* dark reddish brown, paraplectenchymatous, evanescent, but vestiges always remain at edges of hymenium. *Hypothecium* inspersed. *Hymenium* hyaline, 50–100 μm high, J+ blue to wine-red. *Paraphyses* septate, cylindrical, conglutinate, simple to branched and anastomosed. *Asci* clavate, tholus J– or pale blue, external gel J+ blue or wine-red (Figure 1). *Ascospores* numerous (± 100 or more), hyaline, ellipsoid, simple, small, 2–8 × 1–3 μm. *Pycnidia* globose or pear-shaped, about 150 μm diam. *Pycnidiosporophores* hyaline, cylindrical, septate, simple to branched. *Pycnidiospores* acrogenous, hyaline needles, 4–8 × 0,8 μm.

Etymology: 'lithos' (Greek) = rock, 'glyphe' (Greek) = writing on stone tablet or an engraving.

Lithoglypha aggregata *Brusse*, sp. nov.

Thallus endolithicus. *Algae* ad *Myrmeciam* pertinentes, cellulis 5–17,5 μm diametro. *Apothecia* breviter pseudolirellina, usque ad 0,4 mm lata, aggregata, fasciculis ad 6 mm diametro. *Excipulum* 15–20 μm crassum, atro-porphyreum. *Epithecium* circa 15 μm crassum, atro-porphyreum, evanescens. *Hypothecium* hyalinum vel stramineum, obconicum, usque ad 50 μm crassum. *Hymenium* hyalinum, 65–80 μm altum, J+ caeruleum. *Paraphyses* septatae, cylindricae, conglutinatae, simplices vel ramosae et anastomosantes, luminibus 0,8–1,3 μm crassis. *Asci* clavati, 60–67 × 14–26 μm, tholis J+ pallide caeruleis (Figure 1). *Ascosporae* numerosae, hyalinae, ellipsoideae, simplices, 4–7 × 1,3–2,4 μm. *Pycnidia* globosa vel pyriformia, 100–180 μm profunda, 70–110 μm lata. *Pycnidiosporae* acrogenae, hyalinae, aciculares, 3,5–7,5 × 0,8 μm. *Thallus* sine materiis chimicis.

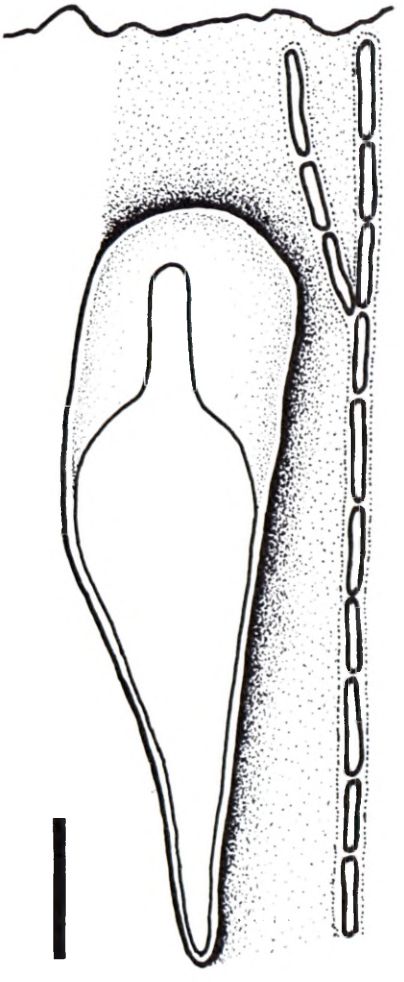

FIGURE 1.—*Lithoglypha aggregata* Brusse, ascus and paraphysis. *F. Brusse 4558*, holotype. Bar = 10 μm.

TYPE.—Natal, 2929 (Underberg: 65 km SW of Estcourt, Giant's Castle Game Reserve, about half-way along Giant's Hut trail, along umChezi (Bushman's) River, on Clarens Sandstone on NE slope, in full sun, alt. 1 950 m (–BC), *F. Brusse 4558*, 1986.01.23 (PRE, holo.; BM, COLO, LD, iso.). Figure 2.

Thallus endolithic. *Algae*, *Myrmecia*, 5–17,5 μm diam. *Apothecia* shortly pseudolirelline to sometimes round, up to 0,4 mm wide, aggregated, clusters to 6 mm across. *Exciple* 15–20 μm thick, dark reddish brown. *Epithecium* about 15 μm thick, dark reddish brown, evanescent (except at edges). *Hypothecium* hyaline to stramineous, obconical, up to 50 μm thick. *Hymenium* hyaline, 65–80 μm high, J+ blue. *Paraphyses* septate,

cylindrical, conglutinate, simple to branched and anastomosed, lumens 0,8–1,3 μm thick. *Asci* clavate, 60–67 × 14–26 μm, tholus J+ pale blue (Figure 1). *Ascospores* numerous, hyaline, ellipsoid, simple, 4–7 × 1,3–2,4 μm. *Pycnidia* globose to pear-shaped, 100–180 μm deep, 70–110 μm wide. *Pycnidiospores* acrogenous, hyaline needles, 3,5–7,5 × 0,8 μm. *Chemistry*: no lichen substances found by TLC.

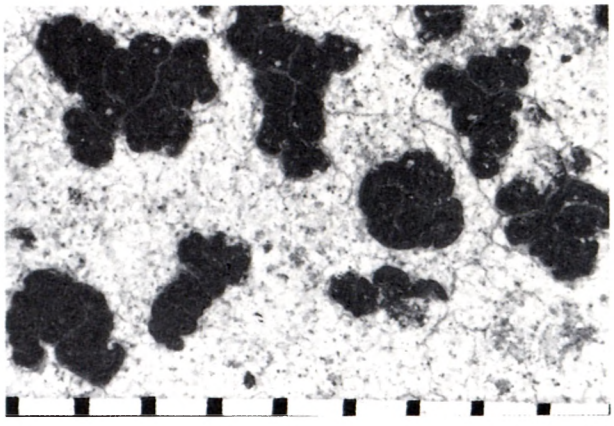

FIGURE 2.—*Lithoglypha aggregata* Brusse, habit. *F. Brusse 4558*, holotype. Scale in mm.

This new genus resembles *Sarcogyne* Fw. most closely, but differs in the pycnidiosporogenous cells and pycnidiospores which are needle-shaped instead of very small ellipsoid, as in *Sarcogyne* (Poelt 1969: Poelt & Vězda 1981).

The genus *Sarcogyne* has recently been subdivided into *Polysporina* Vězda (1978; Poelt & Vězda 1981), but they may be based on the same type, depending on the clarification of the status of *Sarcogyne corrugata* Fw., the type of *Sarcogyne*. Zahlbruckner (1927) regarded *S. corrugata* as a synonym of *S. simplex* (Davies) Nyl., the type of *Polysporina* Vězda (1978). The genus *Myriosperma* Naeg. in Hepp, is illegitimate (Art. 42b, Voss *et al.* 1983), and is therefore not available for those species with uncarbonized exciples and epithecia. Nevertheless, *Lithoglypha* differs from both these groups of *Sarcogyne*, by its pycnidiospores, which are needle-shaped instead of very small ellipsoid (Poelt 1969; Poelt & Vězda 1981).

Besides the clear-cut difference in the pycnidiospores, *L. aggregata* resembles *S. simplex*, also known from non-calcareous rocks, but the apothecia show little tendency to become fused into clumps. *S. simplex*, thus far known only from the northern hemisphere, also has significantly thinner ascospores. A species with a similar apothecial habit is *S. cyclocarpa* (Anzi) Stnr., but this is an obligately calcicolous lichen, with a well developed epilithic thallus, with thinner ascospores and which is also known only from the northern hemisphere—only Europe and western Asia in fact (Magnusson 1935, 1936, 1937; Poelt 1969; Poelt & Vězda 1981; Zahlbruckner 1927).

Another species with a tendency to produce clustered apothecia is *Sarcogyne austroafricana* (Zahlbr.) Magn., but this is a true *Sarcogyne* with very small ellipsoid pycnidiospores, 2–2,5 × 1 μm in size (not present in original description). The apothecia of *S. austroafricana* are also larger [about the size of *S. clavus* (Ram.) Krempelh.] and the clusters are composed of only a few apothecia that are only slightly distorted. The hypothecia of *S. clavus* and *S. austroafricana* are a dirty brown (Magnusson 1936, 1937; Zahlbruckner 1926), whereas that of *L. aggregata* is at most stramineous.

The photobiont of *Lithoglypha aggregata* is a species of *Myrmecia*, which is also typical for *Sarcogyne* (Tschermak-Woess 1978).

This new lichen is presently known only from exposures of the Clarens Formation, otherwise known as Cave Sandstone, more or less encircling Lesotho. The two known records come from both sides of Lesotho but in the northern half, which may indicate its absence in the south-west.

O.F.S.—2828 (Bethlehem): Clarens, on rocks (–CB), *J. E. van der Plank 1896*, 1943.07. (PRE).

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