

Two species of corticolous *Opegrapha* Ach. (lichenized Ascomycota) new to India

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ABSTRACT

Joseph S. & Sinha G. P. 2011. Two species of corticolous *Opegrapha* Ach. (lichenized Ascomycota) new to India. *Geophytology* 40(1-2): 83-86.

The present paper deals with two species of corticolous *Opegrapha* Ach., viz. *O. discolor* Vain. and *O. simplicior* (Nyl.) Nyl., new to India. A brief description and photographs are provided to facilitate their identification.

Key-words: Roccellaceae, *Opegrapha*, corticolous lichens, India.

INTRODUCTION

Opegrapha Ach. (Roccellaceae) is a large genus of ca. 300 species, with both lichenized and lichenicolous species (Kirk et al. 2008). It is a large and complex genus, especially for the corticolous and lignicolous species, with a lot of contradictions in the literature and some unsolved problems (Ertz & Egea 2007, Ertz 2009). The genus is generally characterized by crustose, non-corticate thalli, ascomata usually lirelliform, \pm rounded or oblong, transversely septate and I- ascospores. Upreti and Singh (1987) published a taxonomic account on the genus *Opegrapha* from Andaman Islands of India, which included one new species and six new reports. Awasthi (1991) keyed 21 species from India. Singh and Sinha (2010) enumerated 16 *Opegrapha* species based on Ertz (2009), which was followed by additional four species to Indian lichen flora by Jagadeesh and Sinha (2010). During the course of further studies on family Roccellaceae in India, two additional species of *Opegrapha* have been found new to India. A brief account of the species is provided to facilitate their identification.

MATERIAL AND METHOD

Corticolous specimens of *Opegrapha* from Sundarbans Biosphere Reserve deposited in BSA herbarium were examined. External morphological features were studied by using Olympus SZ stereomicroscope. Sections of thalli and ascomata were made by hand with a thin razor blade, mounted in distilled water, 5% KOH (K), and Lugol's iodine solution and examined with Leica DM 2500 compound microscope. Lichen substances were investigated with thin layer chromatography (TLC) following Orange et al. (2001).

TAXONOMIC DESCRIPTION

Opegrapha discolor Vain., Ann. Acad. Sci. Fenn., Ser. A, 15: 276. 1921.

Plate 1, figure 1

Thallus crustose, continuous, thin, 35–65 μ m thick; surface smooth, dark grey, matt. Ascomata lirellae, sparse, scattered \pm evenly over the thallus, rarely with one short branch, straight to slightly curved, not flexuose, black, epruinose, 0.2–1.5 (–1.9) x 0.12–0.18 mm; disc slit like, black; excipulum brown, closed below

the hypothecium, 30–68 μm thick laterally, 20–70 μm thick at base, K+ olivaceous; epihymenium pale brown, 15–18 μm thick, I+ slightly red, K+ slightly olivaceous; hymenium hyaline, 55–75 μm high, I+ directly red, K/I+ blue; paraphysoids branched, few anastomosing, tip region densely anastomosed, not thickened at apex; hypothecium pale brown, 20–29 μm thick, K+ slightly olivaceous, I+ red; asci cylindrical to clavate, 8–spored, 45–58 x 11–14 μm ; ascospores ellipsoid to fusiform, hyaline, 3–septate, 13.1–19.2 x 3.3–3.7 (–4.5) μm ; perispore distinct, hyaline, ca. 1 μm wide, over matured spores not seen. Pycnidia not seen.

Chemistry: Thallus K-, C-, KC-, P-; no lichen substances detected in TLC.

Distribution: Earlier, the species was known by its type collection from Philippines (Vainio 1921). The present report from India, after a gap of 90 years, is therefore significant.

Specimen examined: West Bengal, Sundarbans Biosphere Reserve, alt. MSL, Arbesi, on bark of *Excoecaria agallocha*, 22.02.2004, Jagadeesh 850 (BSA).

Opegrapha simplicior (Nyl.) Nyl., Bull. Soc. Linn. Normandie, sér. 2, 2: 94. 1868. (*Opegrapha atra* f. *simplicior* Nyl., Ann. Sci. Nat., Bot., sér. 4, 15: 49. 1861).

Plate 1, figure 2

Thallus crustose, continuous to slightly cracked, thin, ca. 45 μm thick; surface white – grey, matt or slightly shiny. Ascomata lirellae, numerous, scattered in group of 2 to 4, simple or one to two short branched, straight to curved, black, epruinose, 0.3–1.5 x 0.11–0.18 μm ; disc slit like or \pm narrowly exposed, black,

15–69.5 μm wide; excipulum dark brown, usually closed below the hypothecium, sometimes \pm open, 32.5–58.2 μm thick laterally, 0–31.8 μm thick at base, K+ olivaceous; epihymenium hyaline to pale brown, 8–11.6 μm thick, I+ persistent blue, K-; hymenium hyaline, 39.2–55.8 μm high, I+ persistent blue, K/I+ blue; paraphysoids branched, anastomosing, not thickened at apex; hypothecium pale brown, 7.9–12.8 μm thick, I+ persistent blue, K+ slightly olivaceous; asci clavate to ellipsoid, 8–spored, 32.5–48.5 x 11.8–14.8 μm ; ascospores ellipsoid, hyaline, 3–septate, 12.1–16.1 x 3.2–4.6 (–5) μm ; perispore distinct, hyaline, 1 (–1.8) μm wide. Pycnidia partly immersed, visible as black dots, walls dark brown, 58–92 μm wide; conidia hyaline, bacilliform, 4.5–6.1 x 0.7–1.1 μm .

Chemistry: Thallus K-, C-, KC-, P-; a yellow green fluorescence observed in UV at Rf value 80 in solvent C before treatment of the plate.

Distribution: Earlier reported from East Africa (Kenya, Mozambique, Rwanda), Siera Leone, South Africa, Madagascar, Asia (Papua New Guinea, New Caledonia), Australia and the Solomon Islands.

Specimens examined: West Bengal, Sundarbans Biosphere Reserve, alt. MSL, Buridubri, on bark of *Xylocarpus mekongensis*, 21.02.2004, Jagadeesh 790 (BSA); Goshaba, on bark of *Xylocarpus mekongensis*, 29.02. 2004, Jagadeesh 1090 (BSA).

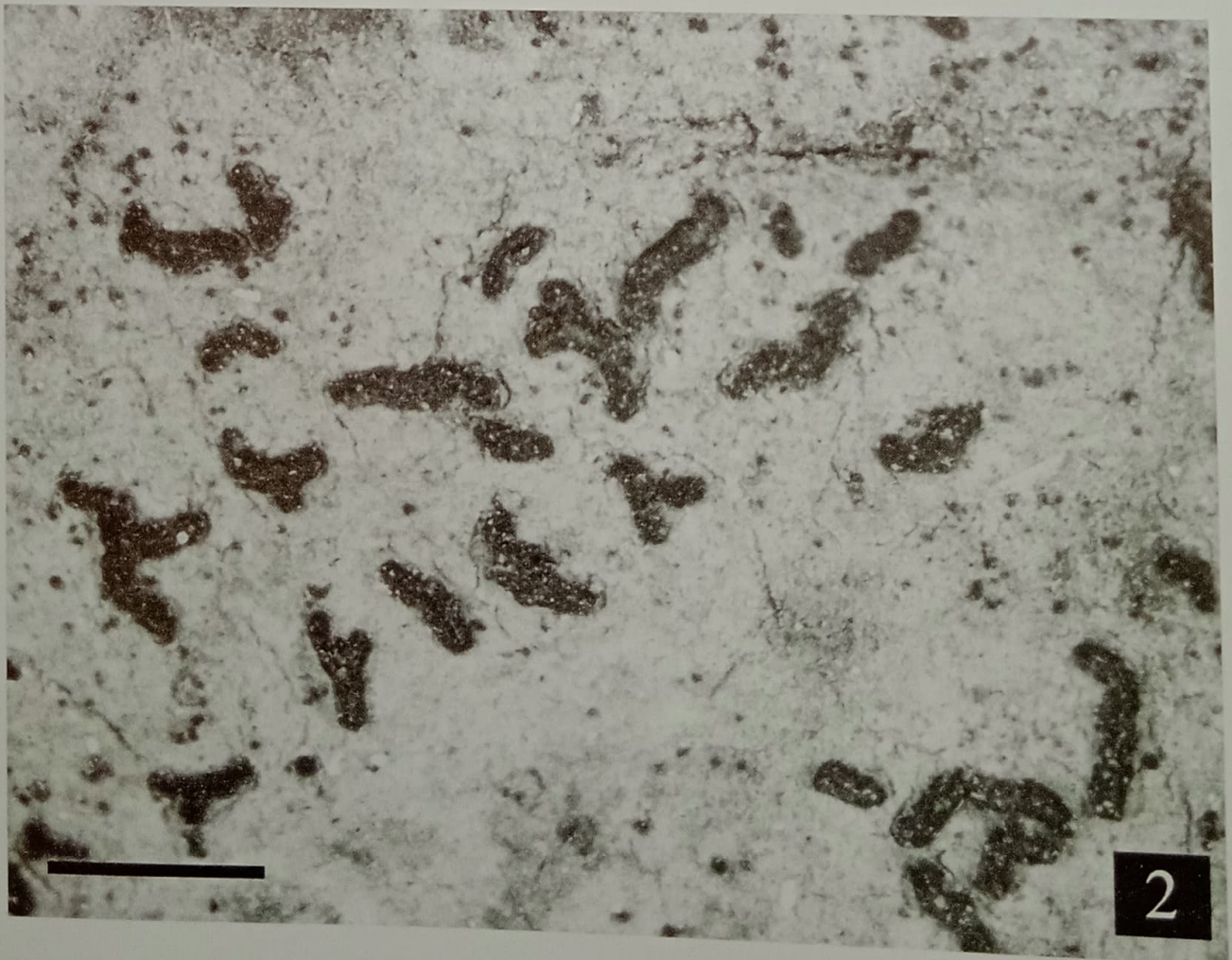
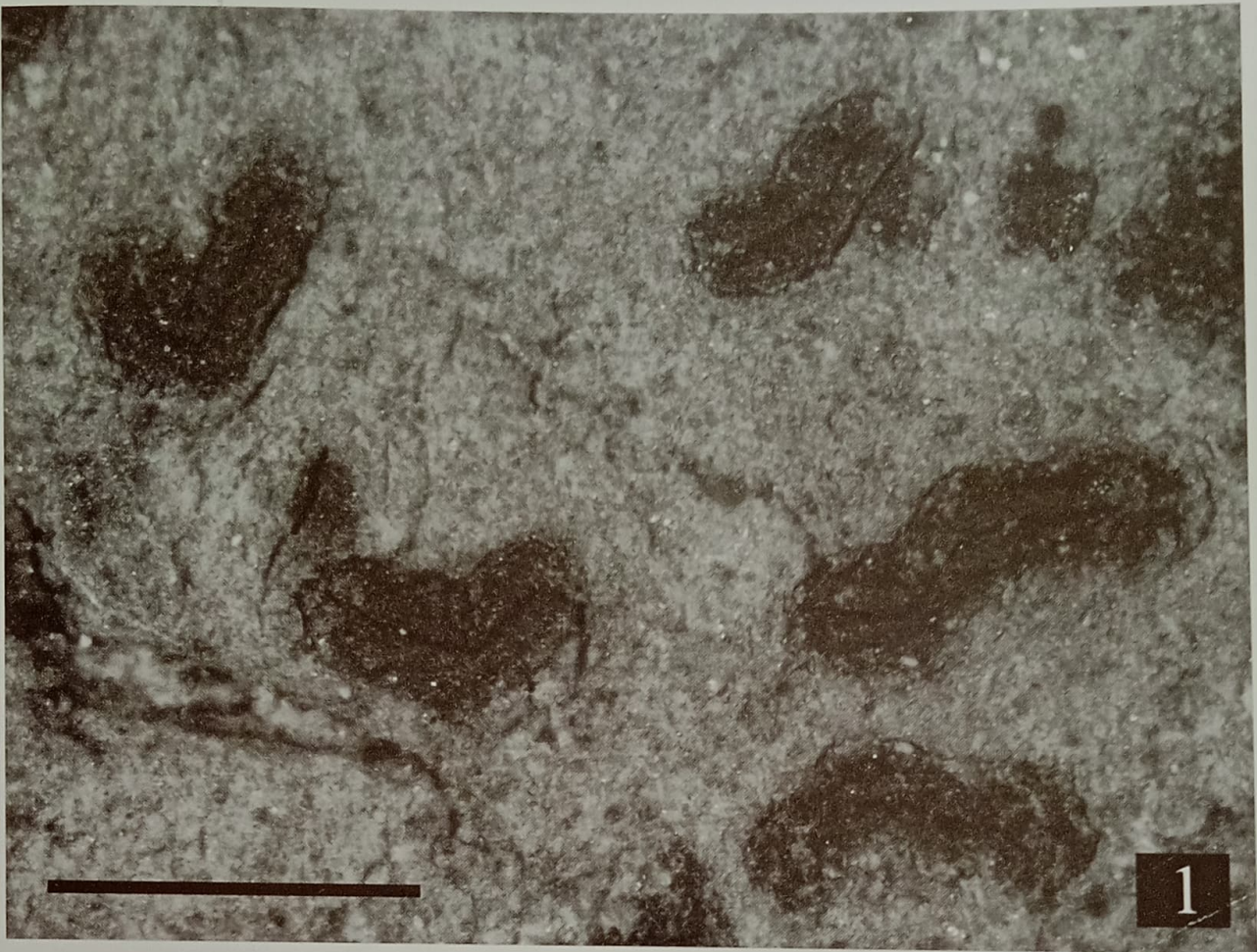
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Plate 1

1. *Opegrapha discolor* Vain. 2. *Opegrapha simplicior* (Nyl.) Nyl. Scale bars = 1 mm





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