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Graphis subregularis A.W. Archer, a new lichen record for India.

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A B S T R A C T

The species, *Graphis subregularis*, a member of the family *Graphidaceae*, collected from Darjeeling district of West Bengal, is reported here as a new distributional record for India.

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Introduction:

The lichen genus *Graphis* sensu Staiger (2002) and Lücking (2009) is characterized by mostly by lirellate ascomata; partially to completely carbonised excipulum; hyaline, amyloid, transversely septate to muriform ascospores. *Graphis* is the largest genus in the family *Graphidaceae* and also the largest genus of tropical crustose lichens (Lücking *et al.* 2008). It comprises over 370 species worldwide (Lücking *et al.* 2009, Barcenas Peña *et al.* 2014), of which, *c.* 132 species are known from India (Jagadeesh Ram & Sinha 2009b, Singh & Sinha 2010, Singh & Swarnalatha 2011b, Singh *et al.* 2011, Chitale *et al.* 2011, Sharma & Khadilkar 2011, Gupta & Sinha 2012, Sethy *et al.* 2012, Singh & Singh 2014, Singh & Singh 2015, Singh *et al*. 2015, Singh & Singh 2016). *Graphis subregularis* is reported here as new distributional record for India. A detailed description, with an illustration, is provided here to facilitate easy identification.

Materials and methods:

Morphological examination of the specimen was carried out under a stereo zoom microscope (Nikon SMZ 1500) and anatomical characters were examined under a compound microscope (Magnüs MLX - Tr). The lichen chemicals were investigated with Thin Layer Chromatography (TLC) in solvent system A, following White & James (1985). The spot tests were performed with the usual chemical reagents K, C and P. The specimen was also examined under UV light (365 nm). The specimen was taken on loan from the herbarium of Central National Herbarium, Botanical Survey of India, Howrah (CAL) and studied by the author at Lichen Laboratory, Botanical Survey of India, Central Regional Centre, Allahabad in December, 2011.

Graphis subregularis A.W. Archer, in Aus. Syst. Bot. 14: 266 (2001). (Figure 1)

Figure: 1. *Graphis subregularis*

Thallus corticolous, epiphloeodal, thallus *c.* 40 µm thick above the bark, 2.5 cm diam., finely cracked, irregular in outline, prothallus indistinct; surface brownish grey to creamy, smooth at peripheral and verrucose to uneven at central region. Thallus in section lacks upper cortex, numerous calcium-oxalate crystals present in the thallus.

Ascomata initially ellipsoid later becoming oblong to elongate, numerous, slightly crowded in central region of the thallus, black, simple, straight to occasionally curved, erumpent to prominent, 0.25–1.5 mm long, 0.1–0.25 mm broad, acute to often obtuse at the ends; disc closed, epruinose; excipulum complete, laterally carbonized, uncarbonised golden brown at base; basally covered by thalline margin; labia convergent, entire; hymenium hyaline, inspersed, I–, 70–90 µm high; epihymenium light brown, *c.* 9 µm thick; subhymenium hyaline, 16–19 µm thick; paraphyses simple, tips with brown walls. Asci clavate, 70–80 × 19–24 µm. Ascospores 8 per ascus, sub-biseriate to biseriate, ellipsoid, transversely septate, 38.4–70 × 8–9.6 µm, 10–17 locular, hyaline, I+ blue-violet.

Chemistry:

Thallus K–, C–, KC–, P–, UV–; No lichen substances detected by TLC.

Remarks:

G. subregularis is characterised by its black, erumpent to prominent, short lirellae; laterally carbonized excipulum; basal thalline margin; entire labia; hyaline, inspersed, hymenium; transversely septate, 38.4–70 × 8–9.6 µm, hyaline ascospores and lack of lichen substances.

*G. subregularis*is resembles *G. urandrae* in morphology, anatomy and chemistry. However, later species has clear hymenium. *G. scripta* also somewhat resembles *G. subregularis* in anatomical and chemical characters, but *G. scripta* has moderately open disc with white pruina and clear hymenium.

Distribution:

Graphis subregularis was hitherto known only from Australia. It is reported here from India for the first time.

Specimen examined:

India, West Bengal, Darjeeling, Old Barpani Road, 1371 m alt., 18 Sept. 1967, *C.G. Dharne & Roy Chowdhary* 960 (CAL).

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