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TWO NEW RECORDS OF LICHENS FOR INDIA FROM SUNDARBANS BIOSPHERE RESERVE, WEST BENGAL

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Two taxa *viz. Sarcographa subtricosa.* (Leighton) Müll.-Arg. and *Trypethelium subeluteriae* Makhija & Patwardhan have been found as new records for Indian lichen flora while carrying out lichenological investigations in Sundarbans Biosphere Reserve, West Bengal. The study is based on the lichen specimens collected from the area between the years 2001-2003 and have been investigated as per well established lichenological techniques in respect of morphology, anatomy and chemistry (Culberson & Kristinsson, 1970; White & James, 1985). The specimens are deposited in the herbarium Botanical Survey of India, Eastern Circle, Shillong (ASSAM). Descriptions of these taxa are provided to facilitate their identification.

1. **Sarcographa subtricosa** (Leighton) Müll. Arg., Flora 70: 78. 1887; Hedwigia 37: 133. 1893. *Glyphis subtricosa* Leighton, Trans. Linn. Soc. London 27: 181. 1869. (Figs. 1, 3, 4)

Thallus crustose, corticolous, epiphloedal, greenish yellow to yellowish brown, smooth, epruinose, corticated; cortex colourless, 41-58 µm thick, photobiont layer 22-30 µm thick, with in the bark, photobiont *Trentepohlia;* medulla white. Stromata white, thin, K-, 2-13 × 1.5-6 mm. Ascomata lirellate, radiate-stellate, intricately branched, 1-4 × 0.15-0.3 mm; disc concave to plane, black, caesiopruinose; exciple brown, more pigmented in the tip region, hyaline or less pigmented in the bottom, not carbonized, uniformly thick, K + orange or reddish; epithecium brown, 11-14 µm thick, K-; hymenium colourless, not inspersed with crystals or granular mist, 70-115 µm high, K-, 1-; hypothecium colourless, 35-48 µm thick, K-, 1-; paraphyses simple, tip often branched, 2-3 µm wide. Asci clavate, 8- spored, 68-95 × 13-16 µm. Ascospores brown, oblong to oblong-ovoid, 4-loculed, locules lentiform, 16-22 × 6.5-9 µm.

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

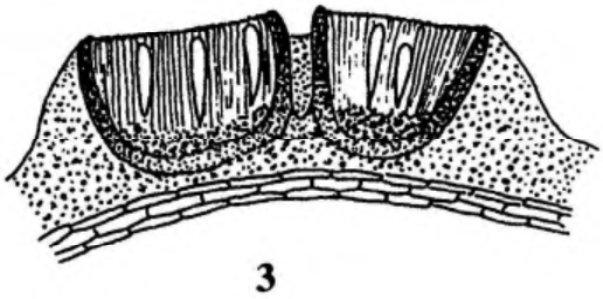
Remarks : The species closely resembles *S. tricosa* (Ach.) Müll.-Arg. which has white pruinose disc, much thickened exciple at the bottom and smaller ascopores.

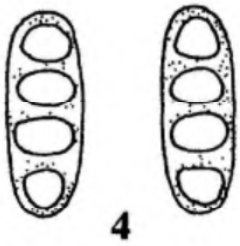
Distribution : Australia and Sri Lanka.

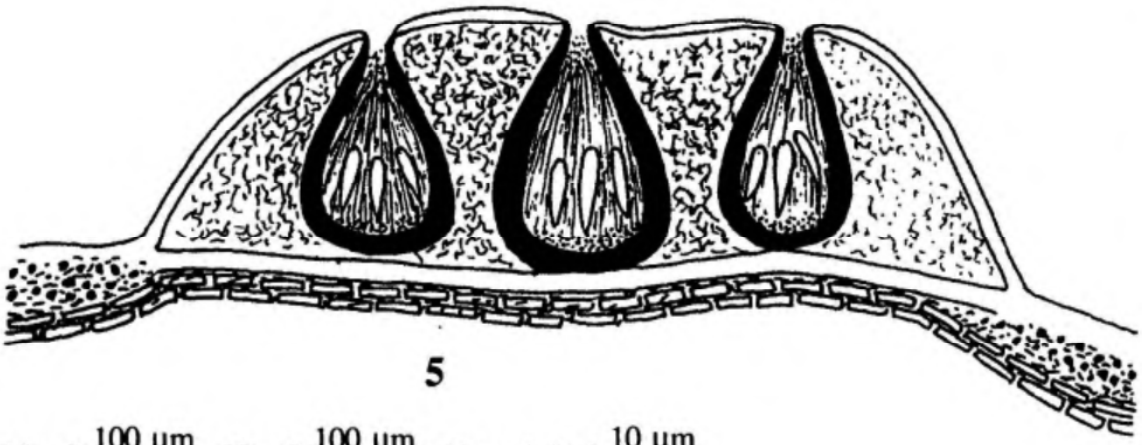
Date of receipt : 12.12.2003. Date of acceptance : 15.07.2005.











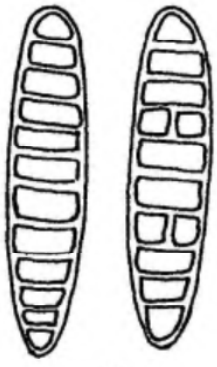


Fig. 3 $\frac{100\ \mu m}{}$; Fig. 5 $\frac{100\ \mu m}{}$; Figs. 4 & 6 $\frac{10\ \mu m}{}$

Fig. 1. *Sarcographa subtricosa* (*Jagadeesh* 13783, × 1.1); 2. *Trypethelium subeluteriae* (*Jagadeesh* 12210 × 1.1). Figs. 3&4. *Sarcograha subtricosa:* Fig. 3. V.S. through ascomata; Fig. 4. Ascospores. Figs. 5&6. *Trypethelium subeluteriae;* Fig. 5. V.S. through ascomata; Fig. 6. Ascospores.

Specimens examined: West Bengal : Sundarbans Biosphere Reserve, Sudhanyakhali, on *Ceriops decandra,* 22.2.2003, *Jagadeesh* 13373; Dobanki, on *Excoecaria agallocha, 23.2.2003, Jagadeesh* 13383; Chamta, on *Xylocarpus mekongensis,* 25.2.2003, *Jagadeesh* 13517; Dutta Passur, on *Xylocarpus mekongensis,* 1.3.2003, *Jagadeesh* 13756; Lothian island Wildlife Sanctuary, on *Excoecaria agallocha,* 6.3.2003, *Jagadeesh* 13783.

2. Trypethelium subeluteriae Makhija & Patwardhan, *Int. J. Mycol. Lichenol.* 5(3): 245. 1992.

(Figs, 2, 5, 6)

Thallus crustose, corticolous, epiphloedal, yellow to brownish yellow, smooth, epruinose, corticated; cortex yellowish, 46-80 µm thick; photobiont layer 22-35 µm thick, superficial or with in the bark, photobiont *Trentepohlia;* medulla white with in the bark. Pseudostromata *Trypethelium subeluteriae* type wherein the cortex itself splits in to two distinct layers after reaching the pseudostroma formation, rounded to oblong or irregular, elevated, 5-35 or more carpic, 1.5-3 mm long, 1-2 mm wide, 0.3-0.5 mm high, K+ purple. Ascomata perithecioid, immersed in the pseudostroma, subglobular to conical; ostiole apical, punctate, with a white rim; peridium flask-shaped, carbonized, slightly spreading laterally. Hymenium gelatinized, not inspersed with oil droplets, 1-. Hamathecium of paraphysoids, branched and anastomosed. Asci clavate to cylindrical, 8- spored, biseriate, 102-127 × 19-23 µm. Ascospores colourless, ellipsoid-oblong, transversely 9-11 septate, sometimes vertically 1-septate in the middle, locules angular, 33-49 × 8-10 µm.

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

Remarks : Trypethelium subeluteriae is distinguished by smooth, epruinose, yellow thallus and convex, glossy pseudostromata encircled with cortex.

Distribution : Sri Lanka.

Specimens examined : West Bengal : Sundarbans Biosphere Reserve, Ramganga, 18.3.2002, *Jagadeesh* 12210; Jhilla, 28.2.2003, *Jagadeesh* 13681; Jambu dwip, 8.3.2003, *Jagadeesh* 13827A.

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