

Lichens new to Indian flora - III

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NORTH-EAST India is bestowed with rich lichen flora and several lichen taxa as new reports have already been published (Singh, 1980; Singh & Nongkynrih, 1984; Singh & Singh, 1985; Sinha & Singh, 1986, 1987, 1989). In continuation of the same studies, the following 5 more species, namely, *Parmelina pruinata* (Müll. Arg.) Hale, *Phaeographis megistocarpa* (Leighton) Müll. Arg., *Physcia fragilescens* Zahlbr., *Pseudoparmelia eruptens* (Kurok.) Hale and *Usnea firmula* (Stirton) Mot. have been discovered as new records for Indian lichen flora from recent collections made in Nagaland, and are dealt briefly in order to facilitate their identification. The specimens are deposited in Kanjilal Herbarium (ASSAM), Shillong.

1. *Parmelina pruinata* (Müll. Arg.) Hale, *Phytologia* **28**: 483. 1974; *Smithsonian Contrib. Bot.* **33**: 42: 1976.

Parmelia pruinata Müll.Arg., *Flora* **66** : 46. 1883.

Thallus foliose, corticolous, closely adnate to substratum, greyish to white, ca 3 cm across; lobes sublinear, elongate, imbricate, 1-3 mm wide; margin dissected, ciliate; upper surface emaculate, faintly pruinose, isidia and soredia absent; lower surface black, rhizinate with a narrow brown erhizinate margins; rhizines simple to rarely furcated; apothecia numerous, crowded, 1-4 mm in diameter; spores colourless, simple, oval-ellipsoid, 9 - 14.5 x 5.5-9.0 µm; medulla K-, C+rose, KC-, P-; TLC - atranorin and lecanoric acid present.

Previously known from Australia and New Zealand.

Specimen examined : Mokokchung district; Mokokchung, Mekong forest, alt. ca 1325m, Sinha N.822.

2. *Phaeographis megistocarpa* (Leighton) Müll. Arg., *Flora* **65** : 336. 1882; K. Singh & Awasthi, *Bull. Bot. Surv. India* **21**(1-4) : 99. 1979.

Platygrapha megistocarpa Leighton in *Trans. Linn. Soc. London* **27** : 178. pl.36, fig. 20. 1869.

The species is moderately distributed in the area. Nagaland specimens show little variation in the width of lirellae (0.8-1.0 mm) and thickness of spores (7-9 µm).

Previously known only from Sri Lanka.

Specimen examined : Mon district : Tanhai village forest, alt. ca 800 m, Singh & Sinha N. 4037; Tuensang district: Saramati hill ranges, alt. ca 2000-2500 m, Singh & Sinha N. 3863.

3. *Physcia fragilescens* Zahlbr., *Ann. Crypt. exotique* **1**: 211. 1928; Moberg, *Nord. J. Bot.* **6**(6) : 857. 1986.

Thallus foliose, saxicolous, dark grey, 2-3 cm across; lobes irregularly branched, eciliate, 0.5-1.5 mm wide, margin incised; upper surface slightly rugose, faintly maculate, sorediate; soralia marginal, later becoming laminar; soredia granular, few isidia also present; lower surface brownish black; rhizines black, simple to rarely branched; apothecia absent in the specimen examined; cortex and medulla K + yellow, C-, KC-, P-; TLC - atranorin and zeorin present.

Previously known from Java and East Africa.

Specimen examined : Phek district : Pfutsero-Tadubi road, at 2 km point, alt. ca 2150 m, Sinha N.435 & N. 436.

4. *Pseudoparmelia eruptens* (Kurok.) Hale, *Phytologia* **29** : 190. 1974; *Smithsonian Contrib. Bot.* **31**: 29.

Parmelia eruptens Kurok. in Hale & Kurokawa, *Contr. U.S. natn. Herb.* **36**: 153. 1964.

Thallus foliose, corticolous, whitish mineral grey, 5 -6 cm across; lobes sublinear, 2-5 mm wide, margin crenate, eciliate; upper surface smooth, cracked in older parts, emaculate, isidiate - pustulate; isidia dense, constricted at base, bursting apically but not forming soredia; lower surface black with a narrow erhizinate margin;

rhizines simple, sparse; apothecia and pycnidia not seen; medulla K-, C-, KC-, P-; TLC—a atranorin and divaricatic acid present.

Previously known from Mozambique, South Africa and New Zealand.

Specimen examined : Kohima district: near Botsa, alt. ca 1450 m, Singh & Sinha N. 2456.

5. *Usnea firmula* (Stirton) Mot., *Lich. Gen Usnea Stud. Monogr. Pars Syst.* **1** : 64. 1936.

Eumitria firmula Stirton, *Scot. Nat.* **6** : 100. 1881.

Thallus fruticose, corticolous, suberect, pale grey, 6-7 cm long; basal 2-4 mm region black; branches terete, upto 2 mm in diameter; lateral branchlets dense, sparse in basal region, 1-4 (7) mm long; surface densely papillate, pseudocyphellae, soredia and isidia absent; papillae dense on main branches and sparse to absent on lateral branchlets; medulla with pigmented periaxial layer; central axis hollow; apothecia numerous, terminal, 2-8 mm in diameter; spores colourless, simple, oval-ellipsoid, 9-13 x 6-9 μm ; medulla K-, C-, KC-, P+ orange-yellow; TLC—protocetraric acid, usnic acid and two unidentified-whitish spots at Rf 0.3 and 0.4 present.

The species is distinguished by pigmented medulla, hollow central axis and absence of isidia. Externally it

resembles *U. baileyi* (Stirton) Zahlbr. which has isidiate, pseudocyphellate branches and contains norstictic and salazinic acids.

Previously known only from Africa.

Specimen examined : Tuensang district : Saramati hills, alt. ca 2000-2500 m, Singh & Sinha N. 3844-B and N. 3844-E.

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